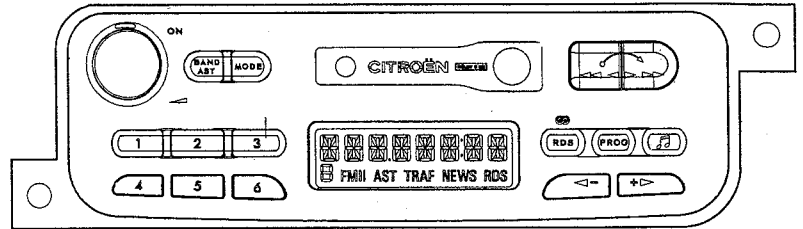


Service Service Service



For repair information of the Cassette deck, see Service Manual supplement No 4822 725 25459 of Auto Cassette Deck LCA5.2 for RC465/35 LCA5.4 for RC465/35S

Service Manual

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TECHNICAL DATA

GENERAL

Power supply	: 10 to 16V DC
Dimensions	: 180x160x51 mm
Front	: Integrated
Security code	: Yes
On/Off logic	: Yes
CD changer control	: Yes for /35S
Blinking LED	: Yes
Quiescent current (at 13.5V)	: <1.5mA + 1mA (blinking)

RADIO

LW	: 144-288 KHz - steps Manual : 1 KHz
MW (Europe)	: 531-1602 KHz - steps Manual / Search : 1 / 9 KHz
FM (x3)	: 87.5-108 MHz - steps Manual / Search : 50 / 50 KHz
IF-AM (1/2)	: 10.7 MHz / 450 KHz
IF-FM (1/2)	: 72.2 MHz / 10.7 MHz
Sensitivity 26dB S/N	: 40 μ V (LW) (limit)
	: 50 μ V (MW) (limit)
	: 3.5 μ V (FM) (limit)
Limitation α -3dB	: 7 3 μ V

AMPLIFIER

Output power	: RC465/35S : 4x19W / 4 Ω (THD = 10%)
	: RC465/35 : 4X7W / 4 Ω (THD = 10%)
Treble control	: +10 / -10dB 2 at 10kHz
Bass control	: +13/-10dB 2 at 80Hz
Balance control	: 60dB
Fader	: 60dB

CASSETTE

LCA5.2 for RC465/35	
LCA5.4 for RC465/35S	
Number of tracks	: 2x2
Tape speed	: 4.76 cm/sec
Wow and flutter	: < 0.25%
Crosstalk	: > 30dB

ESD



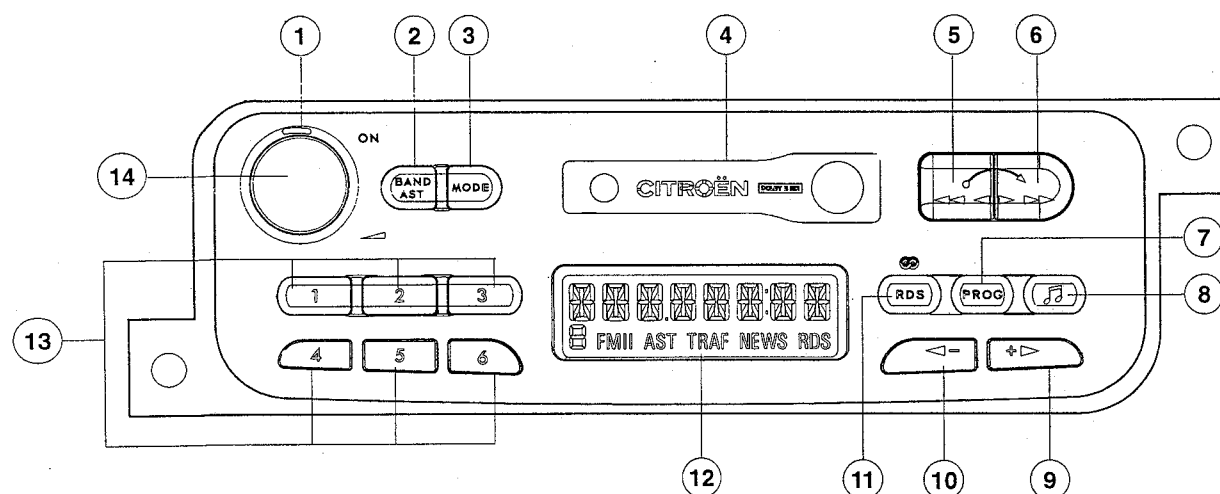
WARNING

All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically. When repairing, make sure that you are connected with the same potential as the mass of the set via a wrist wrap with resistance. Keep components and tools also at this potential.

ESD equipment available in Service:

Anti-static table mat large 100X650X1.25mm	4822 466 10953
small 600X650X1.25mm	4822 466 10958
Connection box (1Mohm)	4822 395 10223
Extendible cable (to connect wrist band to connection box)	4822 320 11307
Connecting cable (to connect table mat to connection box)	4822 320 11305
Earth cable (to connect any product to mat or box)	4822 320 11308
Complete kit ESD3 (combining all above products)	4822 310 10671
wristband tester	4822 344 13999

Front controls

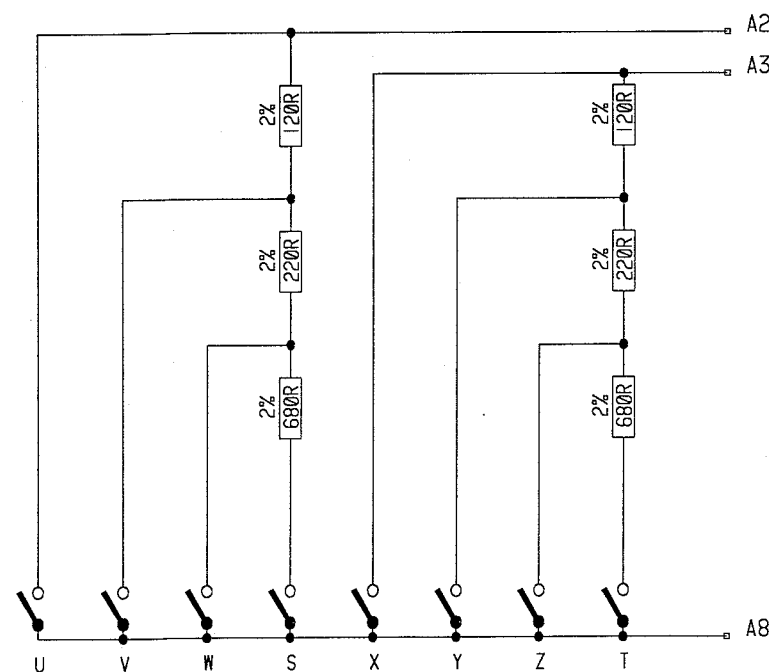


- | | | | |
|-----|------------------------------------|----|--|
| 1 | Blinking led / pilot light | 9 | Search up / menu up / track up* |
| 2 | Button band / autostore | 10 | Search down / menu down / track down* |
| 3 | Button mode cassette / radio / CD* | 11 | Button menu RDS |
| 4 | Cassette opening | 12 | Display |
| 5 | Button FRW | 13 | Preset 1 2 3 4 5 6 / disk* 1 2 3 4 5 6 |
| 6 | Button FFW | 14 | On / off / volume |
| 5+6 | Eject cassette / reverse cassette | | |
| 7 | Button menu program | | |
| 8 | Button menu radio | | |

* : RC465/35S only

Remote control

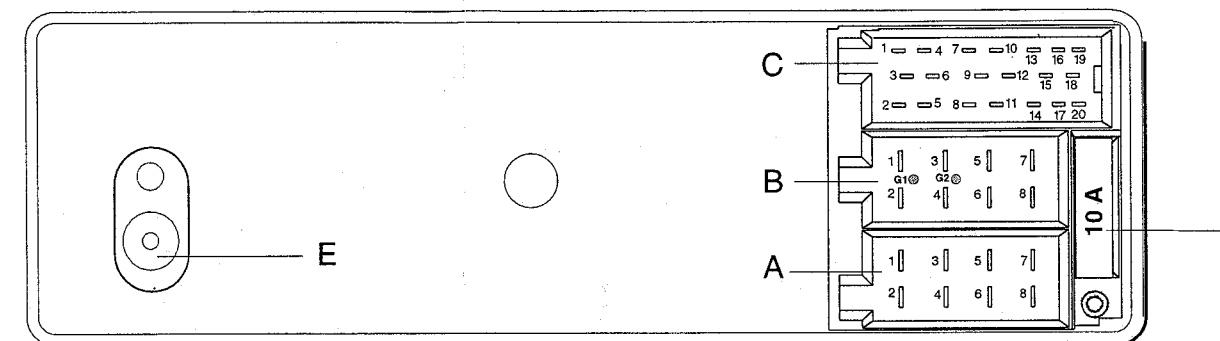
This set can be also controlled by a remote control, allowing you to carry out some of the main functions of the set. This remote control is integrated in the driving wheel of the car, for that reason you cannot get one. If you want to perform some tests using the remote control, you must build it up yourself, using the following schematic diagram:



Controls:

- U - direct to A2 = <=>
- V - 120Ω to A2 = <=>
- W - 340Ω to A2 = Memo +
- S - 1020Ω to A2 = Memo -
- X - direct to A3 = Mode
- Y - 120Ω to A3 = Volume -
- Z - 340Ω to A3 = Volume +
- T - 1020Ω to A3 = Mute

Connections



A : Power supply and remote control

- A1 Telephone mute
- A2 Remote Control 1
- A3 Remote Control 2
- A4 Power supply permanent
- A5 Power supply (switched output internally switched)
- A6 Illumination (input)
- A7 Ignition key (no power)
- A8 Power ground & remote control ground

B : Loudspeaker outputs

- B1 Rear right +
- B2 Rear right -
- B3 Front right +
- B4 Front right -
- B5 Front left +
- B6 Front left -
- B7 Rear left +
- B8 Rear left -

C : For RC465/35S only: CD changer connections

- C1 to NC
- C12 Bus CDC+
- C13 Bus CDC-
- C14 Ground CDC
- C15 Permanent Supply (output)
- C16 Power supply switched
- C18 CD line in reference
- C19 CD line in left
- C20 CD line in right

- E Aerial plug Slide In
- F Fuse 10A

Check and Alignment

For all measurements, please refer to the manual “General Check & Alignment procedures for Car Systems” 4822 725 25456, unless otherwise stated.

Current and voltage
A7 = Acc and A4 = Power / Perm

1) SET OFF

	Voltage for + Perm supply	Current +Acc ON	Current +Acc OFF	Supply µP pin 14 7513	V_LOW µP pin 34 7513
Acc Supply	A4 = 13.5V	< 1.5mA	< 2.5mA	min 4.5V max 5.2V	min 2V max 5.3V

2) SET ON (A6 not connected)

Reset pin 30	Supply µP pin 14 7513		V_LOW pin 34 7513		5V pin3 L7805 ABV		8.5V pin 3 L4885CV		V EEprom	
max 0.8V	min 4.5	max 5.2	min 2	max 5.3	min 4.8	max 5.2	min 8.2	max 8.8	min 4.5	max 5.2

Reference oscillator frequencies (to be measured via a X10 probe)

device	MSM 6307	83CE560	HEF4521	SAA7701	HEF4528
pin	24 & 25	51 & 52	4 & 6	63 & 64	9
frequency	6 MHz 0.5%	16 MHz 0.5%	4.194304 MHz 20 ppm	36.860 MHz 60 ppm	1 Hz 20%

Checks:

1) FM

FM mute	98 MHz 1mV	output at load resistor R & L = 775 mV = REF
	no signal	output should be < -24 dB (REF - 24 dB)

Demodulated FM level	98 MHz	215 mV 2dB
	Input	MPX Output of IC96 (pin 10)

Limiting point α-3dB	FM 98MHz	1mV 400Hz	6µV	4µV	9µV
	RANGE	INPUT	NOMINAL	MIN	MAX

Search levels	Input	Dx: 8µV < X < 25µV Local : 100µV < X < 326µV
	98 MHz	

2) AM

Demodulated AM level	1053KHz - m=30% - 1KHz	230 mV 2dB
	Input	Audio output of IC96 (pin 19)

Sensitivity at 26dB S/N	162/216/252KHz	m = 30%	1000Hz	< 38µV
	603/999/1395KHz			< 30µV

Search levels	Input	Dx: 6µV < X < 31µV Local : 100µV < X < 562µV
	999KHz	

No alignment is needed for the radio part. The tuner module IC96 is pre-aligned in the factory. Dolby alignment, crosstalk alignment and FM DC level curve learning procedure are performed via a special equipment and software, not yet available in Service.
Some values are stored in the EEprom.
The EEprom available in service will contain mean values, that could affect slightly the performance of the set. It is the only solution until further notice. The service code of this EEprom will be given in a next Service Newsletter.
If you change the tuner module, change also the EEprom.

Deck part

Use test cassette SBC420 4822 397 30071 unless otherwise stated.

Tape speed and flutter: Use 3.15KHz test tone	Supply voltage	Tape speed	Flutter
	10.8 - 15.6 V	4.76cm/s +3/-2%	< 0.3%

Crosstalk : use 1KHz 0dB crosstalk signal	< -30dB at speakers output R & L
---	----------------------------------

DESCRIPTION OF THE CAR DIGITAL SIGNAL PROCESSOR (CDSP) SAA7701

The CDSP chip can perform all the signal functions in front of the power amplifier and behind the AM and FM demodulation and tape input. These functions are: interference absorption, stereo decoding, RDS decoding, weak signal processing (soft-mute, sliding stereo, etc...), Dolby-B tape noise reduction and the audio volume controls (volume, balance, fader, tone, dynamic compression). Some functions have been implemented in hardware and are not freely programmable. Digital audio signals from external sources with I2S format are accepted. There are four independent analog output channels. This enables separate tone and equalisation control for front and rear speakers.

The DSP can contain a basic program which enables already a set with AM/FM reception, sophisticated FM weak signal functions, MSS, Dolby-B tape noise reduction system, CD play with compressor function, separate bass and treble tone control and fader/balance control.

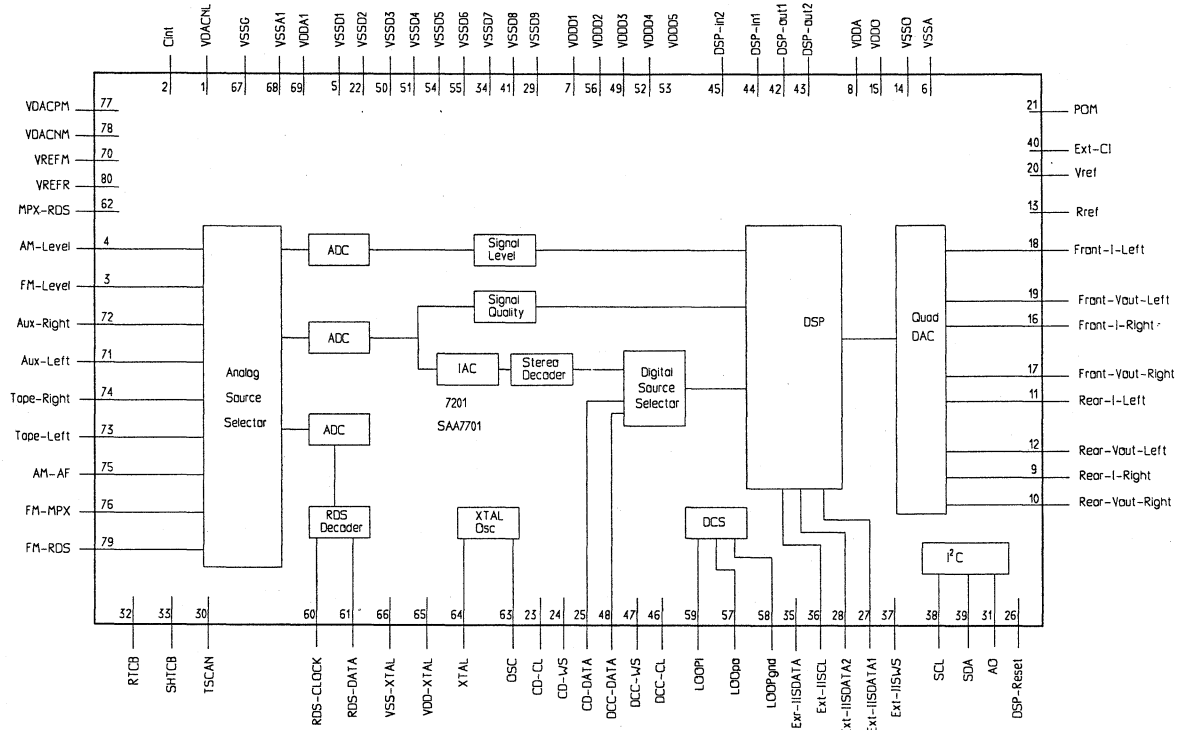
Hardware features

- Bit stream 3rd order Sigma-Delta A/D converters with anti aliasing broadband input filters
- D/A converters with four over sampling and noise shaping
- Digital stereo decoder
- Improved, digital IAC
- RDS processing with optional 16 bit buffer via separate channel (two tuner radio possible)
- Auxiliary analog CD input (CD-walkman, speech, economic CD-changer etc...)
- Two separate full I2S CD and DCC high performance interfaces
- Expandable with additional DSPs for sophisticated features through an I2S gateway
- Audio output short circuit protected
- I2C bus controlled
- Analog tape input
- -40 to +85° C operating temperature range

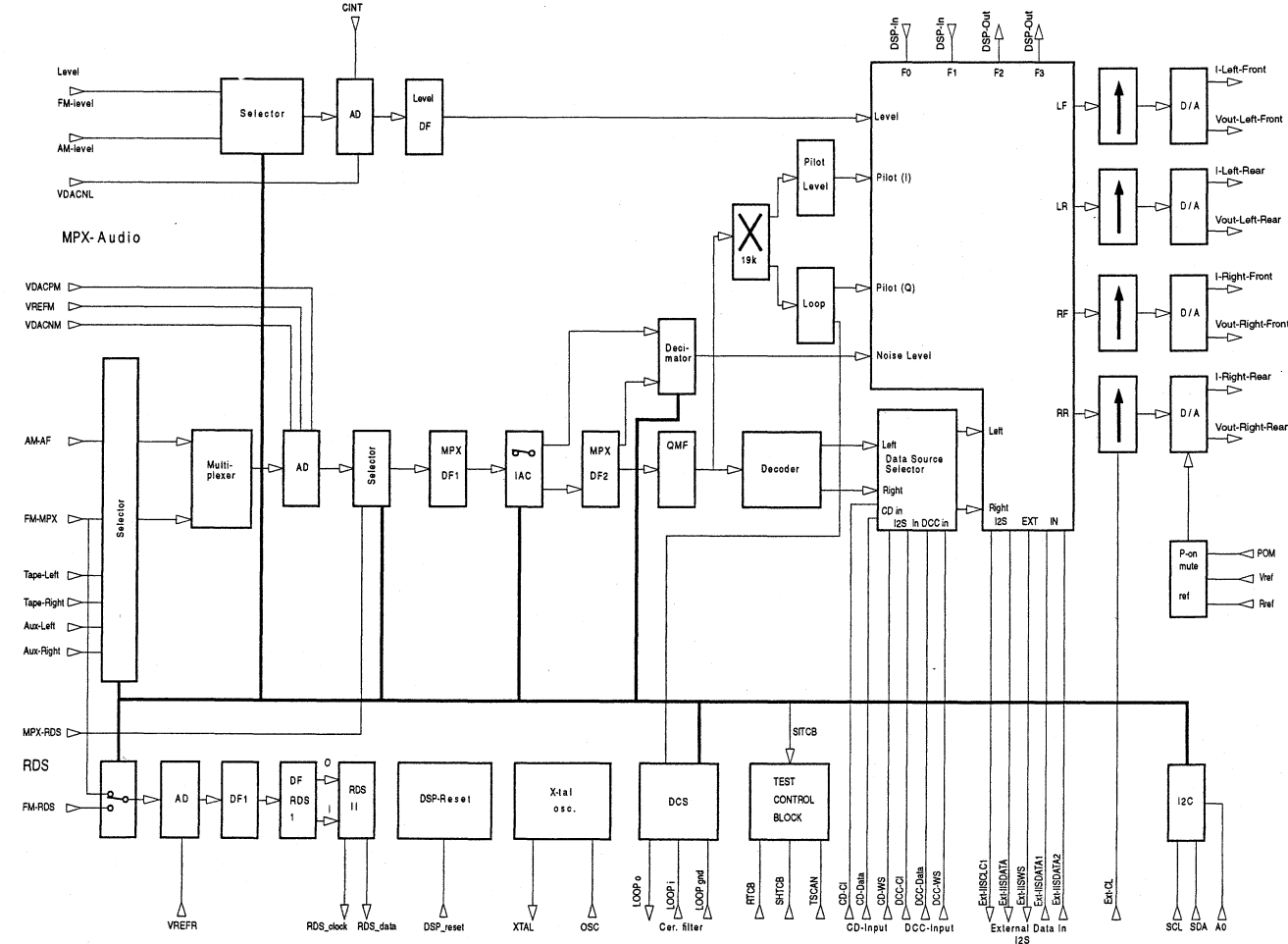
Software features

- Improved FM weak signal processing with more stereo
- Integrated 19KHz MPX filter and de-emphasis
- Electronic adjustments: FM/AM level, FM channel separation, Dolby level
- Baseband audio processing (treble/bass/balance/fader/volume)
- Dynamic loudness or bass boost
- Stereo 1 or 3 band parametric equaliser
- Automatic leveller (in combination with microprocessor)
- Tape equalisation (DCC analog playback)
- Music Search detection for tape (MSS)
- Pause detection for RDS updates
- Dolby-B tape noise reduction
- (adjustable) dynamic compressor
- CD/DCC De-emphasis processing
- Signal level, noise and multipath detection for RDS (I2C bus command)
- Hidden mute during RDS updates
- Improved AM reception

BLOCK DIAGRAM



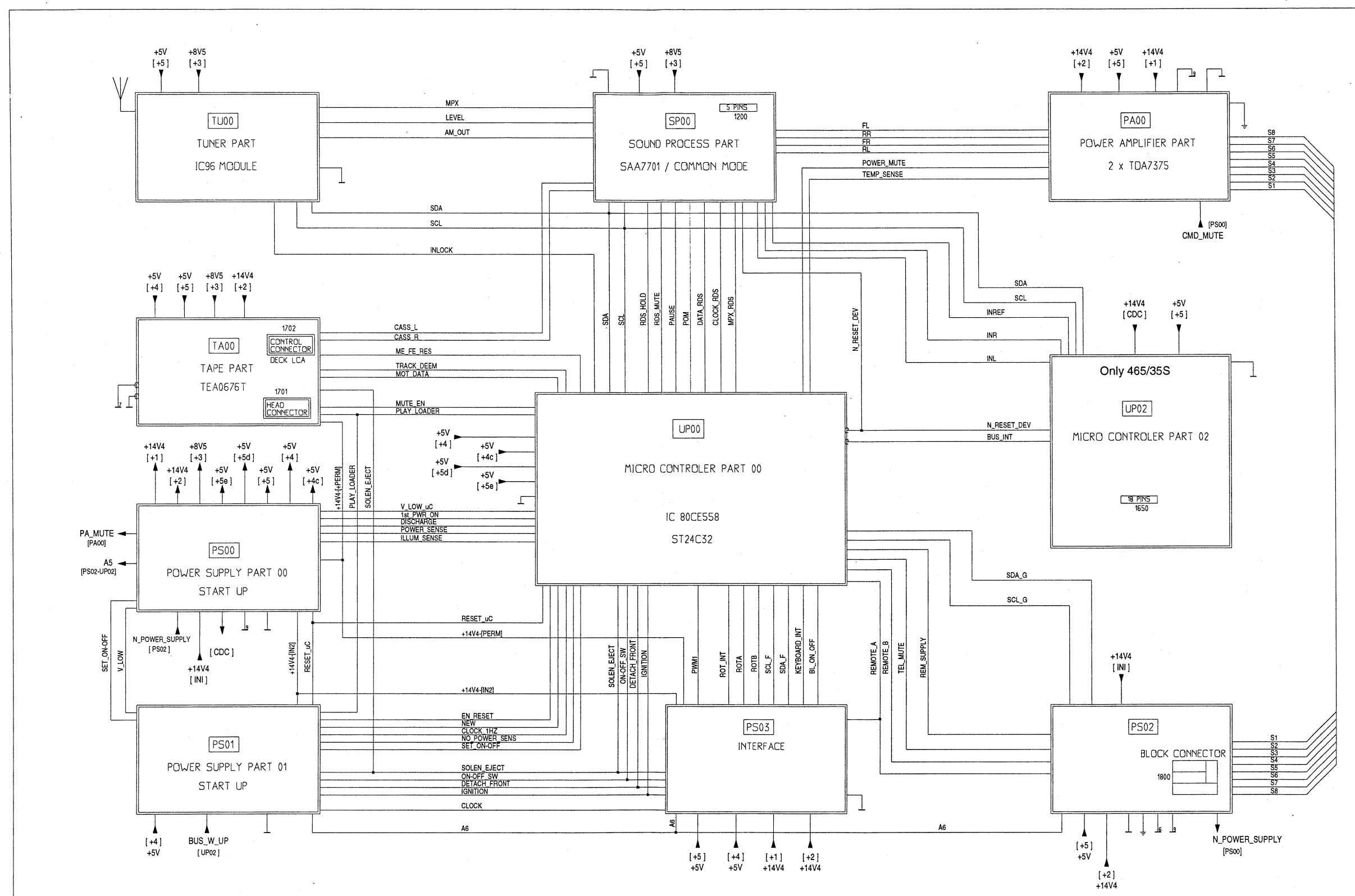
FUNCTIONAL DESCRIPTION



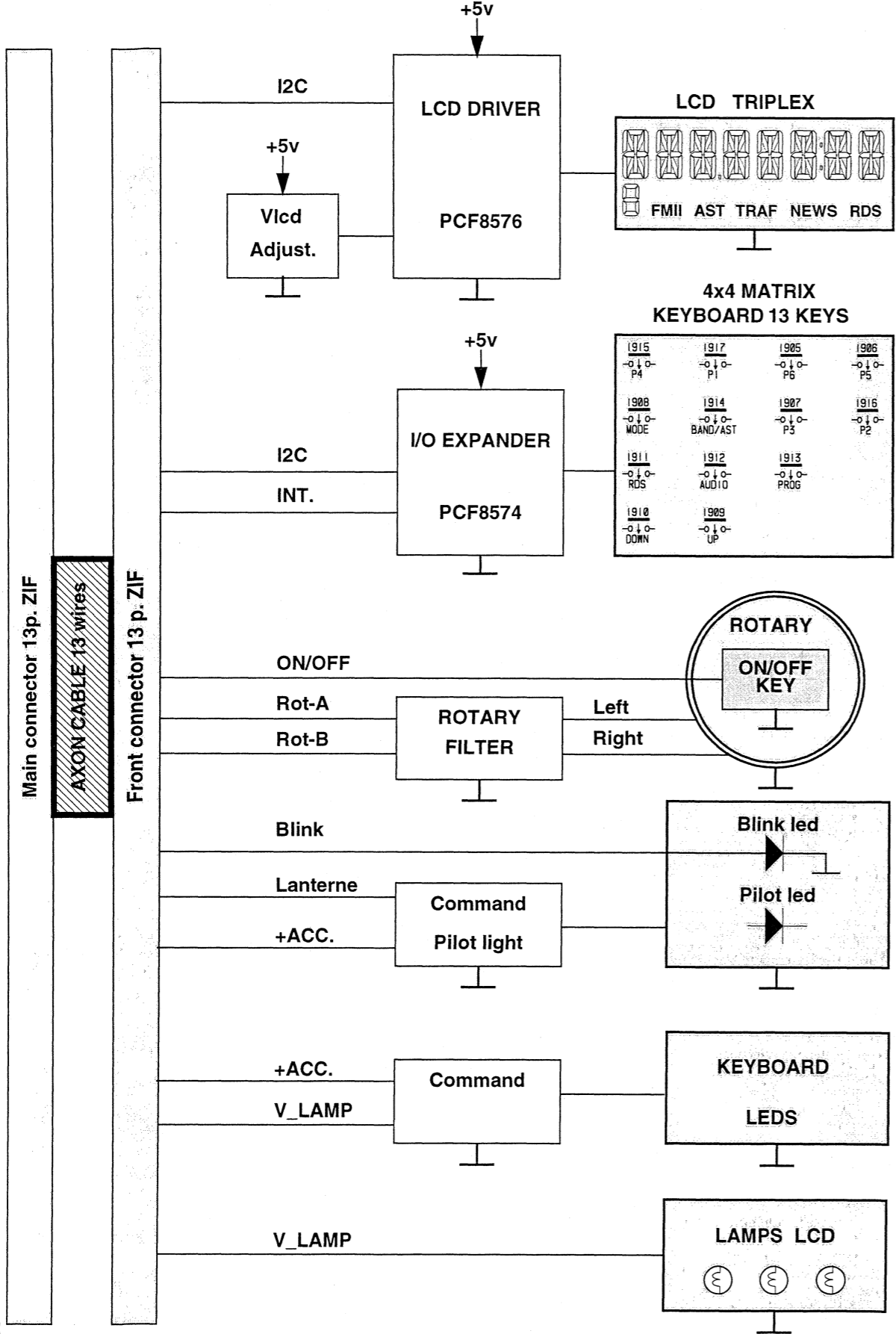
SYMBOL	PIN	DESCRIPTION
VDACNL	1	Ground Reference Level AD DAC LEVEL
CINT	2	Level AD switch mode integrator connection
FM-level	3	FM-level input pin. Via this pin the level of the received FM-radio signal is fed to the CDSP. The level information is needed for a correct functioning of the weak signal behaviour.
AM-level	4	AM-level input pin. Via this pin the level of the received AM-radio signal is fed to the CDSP.
VSSD1	5	Supply ground 1 digital circuitry DACs
VSSA	6	Supply ground analog circuitry DACs
VDDD1	7	Positive supply 1 digital circuitry DACs
VDDA	8	Positive supply analog circuitry DACs
Rear-I-Right	9	Analog audio current output for Rear-right speaker
Rear-Vout-Right	10	Analog audio voltage output for Rear-right speaker
Rear-I-Left	11	Analog audio current output for Rear-left speaker
Rear-Vout-Left	12	Analog audio voltage output for Rear-left speaker
Rref	13	Input for the internal reference current source of the D/A converter
VSSO	14	Supply ground for output Op-amps DAC
VDD0	15	Positive supply for output Op-amps DAC
Front-I-Right	16	Analog audio current output for Front-right speaker
Front-Vout-Right	17	Analog audio voltage output for Front-right speaker
Front-I-Left	18	Analog audio current output for Front-left speaker
Front-Vout-left	19	Analog audio voltage output for Front-left speaker
Vref	20	Voltage input for the internal reference buffer amplifier of the D/A converter.
POM	21	Activates the Power On Mute. Timing is determined with an external capacitor.
VSSD2	22	Ground supply 2 digital circuitry
CD-CI	23	I ² S Clock input CD digital audio source. Also reference for 4* asf and asf. Selected if DIV-EXT/INT is not set. / Output LIRS scan chain 6
CD-WS	24	I ² S Word Select Input CD digital audio source / Input LIRS scan chain 6
CD-Data	25	I ² S Left/Right Data Input CD digital audio source / Input LIRS scan chain 1
DSP-reset	26	Input to reset DSP-core (active low) / input LIRS scan chain 3
Ext_IISDATA1	27	I ² S External Input Data channel 1 (front) from extra DSP chip / input CORE scan chain DIO
Ext_IISDATA2	28	I ² S External Input Data channel 2 (rear) for extra DSP chip
VSSD9	29	Ground supply 9 digital circuitry
TSCAN	30	Scan control (active high)
A0	31	Slave sub-address I ² C selection / Serial data input test control block (SITCB)
RTCB	32	Asynchronous Reset test control block (active high)
SHTCB	33	Shift clock test control block (active high)
VSSD7	34	Ground supply 7 digital circuitry
Ext_IISDATA	35	I ² S External Output Data for extra DSP chip / output LIRS scan chain 4; controlled by ENA_IIS (bit 13)
Ext_IISCL	36	I ² S External Output Clock for extra DSP chip / output LIRS scan chain 3; controlled by ENA_IIS (bit 13)
Ext_IISWS	37	I ² S External input/output Word select for extra DSP chip / output CORE scan chain DIO; controlled by ENA_IIS (bit 13)
SCL	38	Serial clock input (I ² C bus) / input LIRS scan chain 4
SDA	39	Serial data input/output (I ² C bus)
EXT-CI	40	External reference clock input to generate 4*asf and ASF synchronisation. To be used in case the I ² S clock inputs are not suitable. Selection if DIV-EXT/INT is set / Latch signal DAC data words in analog test mode.
VSSD8	41	Ground supply 8 digital circuitry
DSP_out1	42	Digital output 1 from DSP-core (F2 of status register) / output CORE scan chain (tri-state for Debug board)
DSP_out2	43	Digital output 2 from DSP-core (F3 of status register) / IAC trigger output / output DAC scan chain 1; actived by AGC_TRIG (bit 15)

SYMBOL	PIN	DESCRIPTION
DSP_in1	44	Digital input 1 for DSP-core (F0 of status register) / input LIRS scan chain 2
DSP_in2	45	Digital input 2 for DSP-core (F1 of status register) / input CORE scan chain
DCC-CI	46	I ² S Clock input DCC digital audio source. Also reference for 4*asf and asf. Selected if DIV-EXT/INT is not set. / Input DAC digital scan chain 1 / input DAC analog scan chain LEFT / input external MPX ADC if SEL-EXT/ADC is set.
DCC-WS	47	I ² S Word Select input DCC digital audio source / input DAC digital scan chain 2 / input DAC analog scan chain RIGHT / input external RDS ADC if SEL-EXT/ADC is set.
DCC-Data	48	I ² S Left/RIGHT Data input DCC digital audio source / output LIRS scan chain 5 / input external LEVEL ADC if SEL-EXT/ADC is set.
VDDD3	49	Positive supply 3 digital circuitry
VSSD3	50	Ground supply 3 digital circuitry
VSSD4	51	Ground supply 4 digital circuitry
VDDD4	52	Positive supply 4 digital circuitry
VDDD5	53	Positive supply 5 digital circuitry
VSSD5	54	Ground supply 5 digital circuitry
VSSD6	55	Ground supply 6 digital circuitry
VDDD2	56	Positive supply 2 digital circuitry
LOOPo	57	Unfiltered DCS clock output / output DAC scan chain 2 / LEVEL A/D bitstream output in analog A/D test mode / bit slicer output in slicer test mode
LOOPgnd	58	Ground connection DCS filter
LOOPi	59	Filtered DCS clock input / Bit slicer input in slicer test mode
RDS-Clock	60	Radio Data System bit clock output / output LIRS scan chain 1 / MPX A/D bitstream output in analog AD test mode / RDS external clock input; controlled by SEL-BUF/BUF (bit 7) / X-tal output in slicer test mode.
RDS-Data	61	Radio Data System data output / output LIRS scan chain 2 / RDS A/D bitstream output in analog AD test mode
MPX-RDS	62	Selects in FM-mode between FM-MPX and RDS-MPX input signal to the MPX decimation filter / input LIRS scan chain 5 / input A/D scan chain in analog test mode
OSC	63	Crystal oscillator output: Drive output to 36.860 MHz crystal or forced input in slave mode
XTAL	64	Crystal oscillator input: local crystal oscillator sense
VDD_XTAL	65	Positive supply X-TAL circuitry
VSS_XTAL	66	Ground supply X-TAL circuitry
VSSG	67	Ground guards ADs
VSSA1	68	Ground supply ADs analog
VDDA1	69	Positive supply ADs analog
VREFM	70	Mid ref voltage MPX AD and buffers
Aux-Left	71	Analog input pin for Auxiliary-Left signal
Aux-Right	72	Analog input pin for Auxiliary-Right signal
Tape-Left	73	Analog input pin for Tape-Left signal
Tape-Right	74	Analog input pin for Tape-Right signal
AM-AF	75	Analog input pin for AM audio frequency
FM-MPX	76	Analog input pin for FM-Multiplex signal
VDACPM	77	Positive reference voltage AD DAC MPX and RDS
VDACNM	78	Ground reference voltage AD DAC MPX and RDS
FM-RDS	79	Analog FM-MPX input pin for RDS decoding
VREFR	80	Mid ref voltage RDS AD, LEVEL AD and buffers

Explanation: LIRS is the abbreviation of the level, IAC, RDS and Stereo decoder part.



Front block diagram

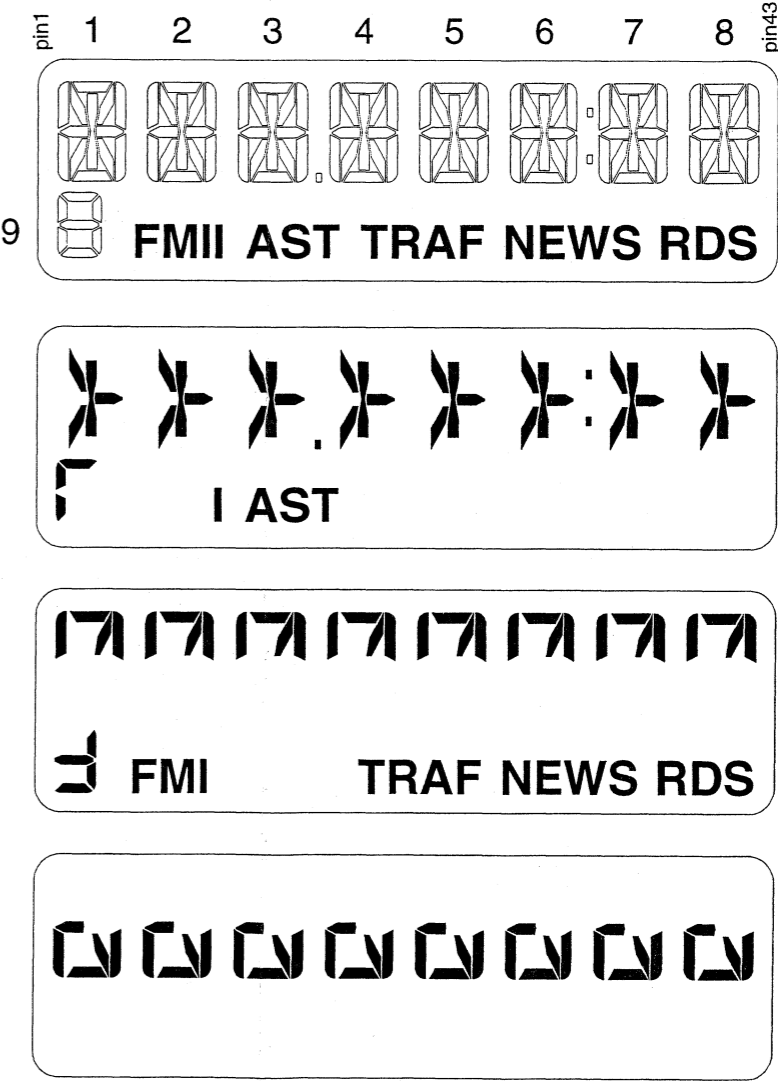


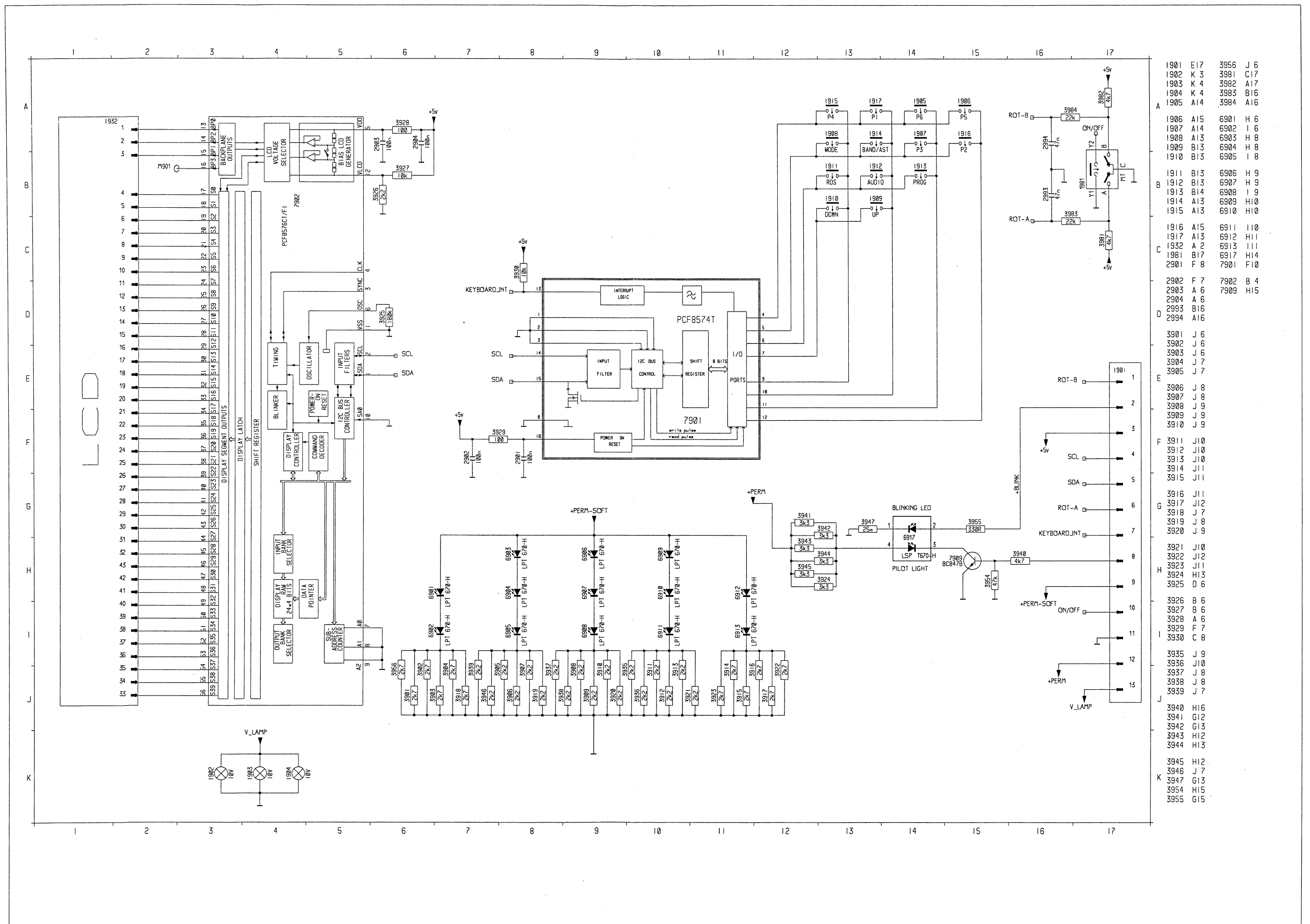
Front illumination

IGNITION	SET	LCD backlighting		Keyboard illumination		Pilot Light		Blinking Led	
		Day	Night	Day	Night	Day	Night	Day	Night
OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON
ON	OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF
ON	ON	OFF	ON (Rheost)	OFF	ON	OFF	ON	OFF	OFF

LCD tables

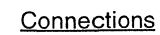
LCD 8 Characters			
Driver	Pin Nb	LCD pinning	LCD
BP0	13	1	COM1
BP2	14	2	COM2
BP1	15	3	COM3
BP3	16	--	--





6913	G	6
6917	B	4
7901	G	6
7909	B	5

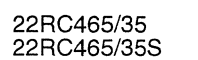
Not reparable module. Do not open and do not try to repair yourself!



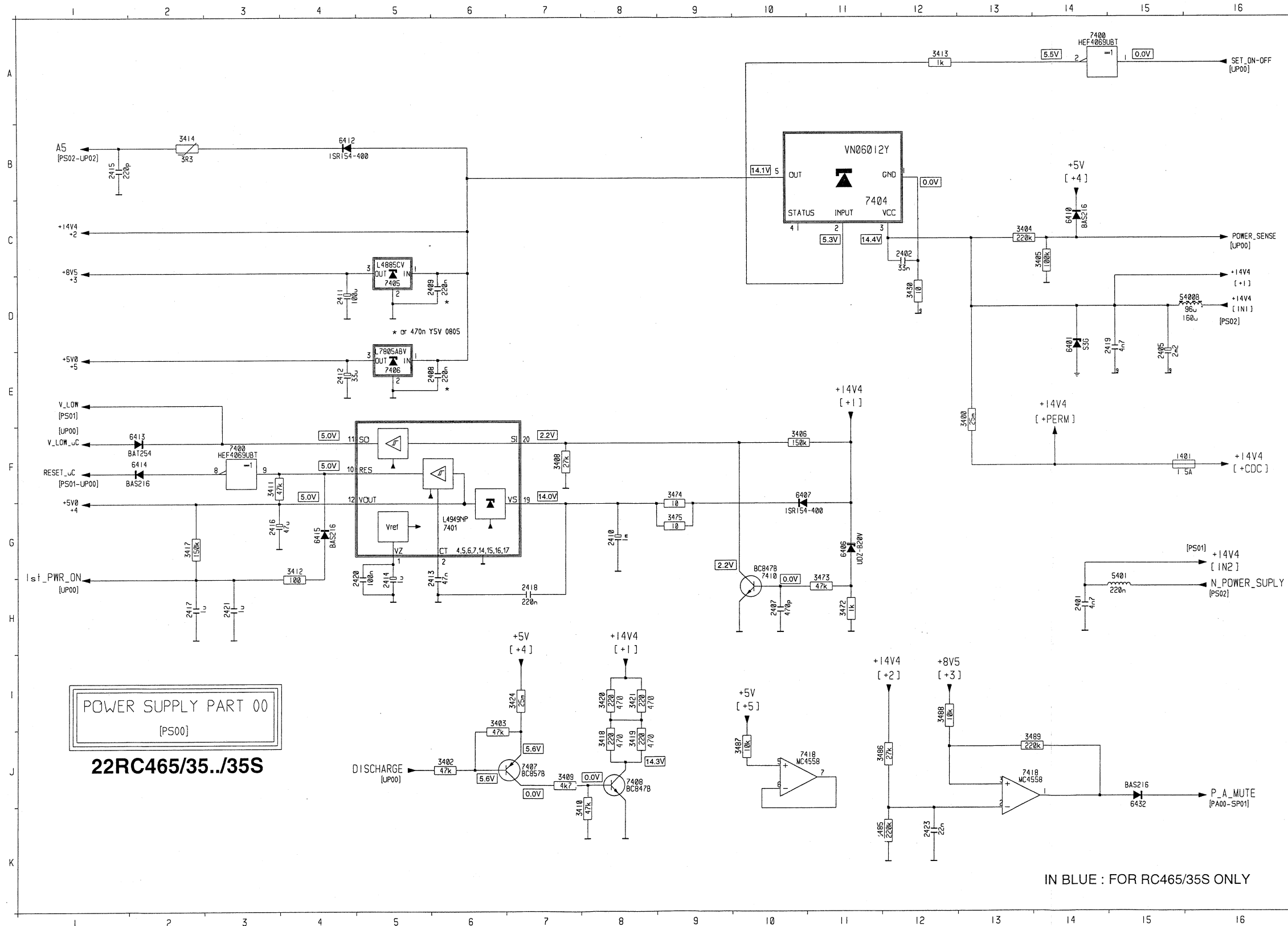
- Quick reference data:

- Longwave/Mediumwave 144-1710 KHz (inclusive USA)
- Shortwave 5850-6250 KHz - 49 meter band
- AM double super concept
- AM IF1 10.7MHz
- AM IF2 450KHz
- First VCO frequency above input signal frequency
- Second X-tal oscillator frequency below IF1
- Usable sensitivity $\alpha 26\text{dB MW} = 14\mu\text{V typ.}$

- FM 87.5 - 108MHz
- FM double super concept
- FM IF1 72.2MHz
- FM IF2 10.7MHz
- First VCO frequency above input signal frequency
- Second X-tal oscillator frequency below IF1
- Usable sensitivity $\alpha 26\text{dB} \approx 2.5\mu\text{V typ.}$
- THD 1mV $\delta f = 75\text{KHz} = 0.5\% \text{ typ}$
- Signal to noise ratio = 65dB typ
- Locktime synthesizer <2mSec



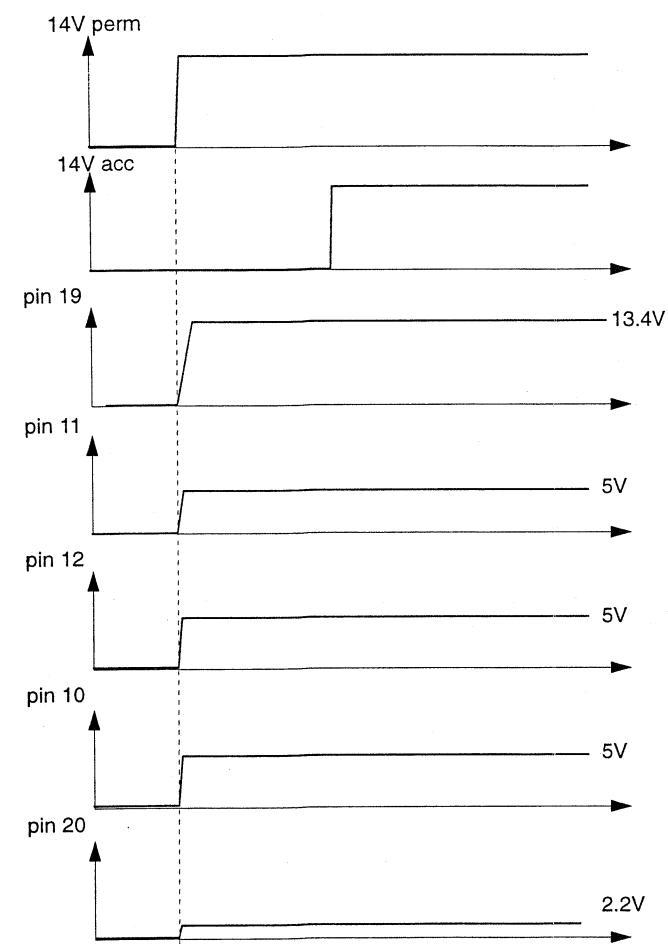
1st_PWR_ON	G1	RESET_uC	F1
A5	B1	SET_ON-OFF	A16
DISCHARGE	J5	V_LOW	E1
N_POWER_SUPPLY	H16	V_LOW_uC	F1
POWER_SENSE	C16		
P_A_MUTE	J16		



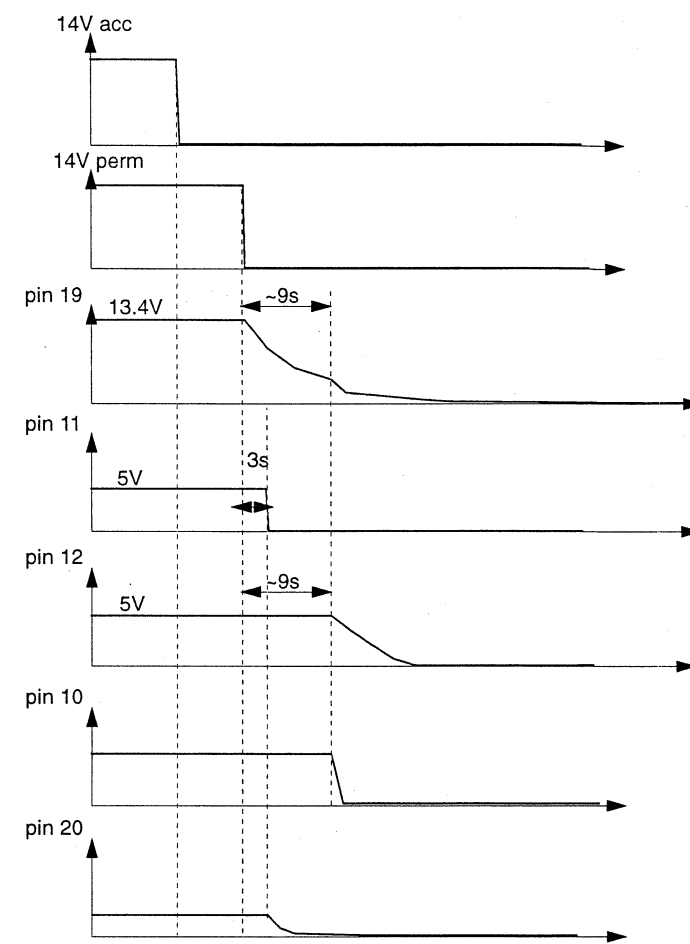
	1401	F15
	2401	H14
	2402	C12
	2405	E15
	2407	H10
	2408	E 6
	2409	D 6
	2410	G 8
	2411	D 4
	2412	E 4
	2413	H 6
	2414	H 5
	2415	B 1
	2416	G 3
	2417	H 2
	2418	H 7
	2419	D15
	2420	H 5
	2421	H 3
	2423	K12
	3400	E13
	3402	J 6
	3403	I 6
	3404	C13
	3405	C14
	3406	F10
	3408	F 7
	3409	J 7
	3410	K 7
	3411	F 3
	3412	G 4
	3413	A12
	3414	B 2
	3417	G 2
	3418	J 8
	3419	J 8
	3420	I 8
	3421	I 8
	3424	I 7
	3430	D12
	3472	H11
	3473	H13
	3474	F 9
	3475	G 9
	3485	K11
	3486	J11
	3487	J10
	3488	I12
	3489	J13
	5400	D16
	5401	H15
	6401	D14
	6406	G11
	6407	F10
	6410	C14
	6412	B 4
	6413	F 2
	6414	F 2
	6415	G 4
	6432	K15
	7400	A14
	7400	F 3
	7401	G 6
	7404	C12
	7405	D 5
	7406	E 5
	7407	J 7
	7408	J 8
	7410	H10
	7418	J13
	7418	J11

Waveforms on IC 7401 L4949N

1) Set OFF



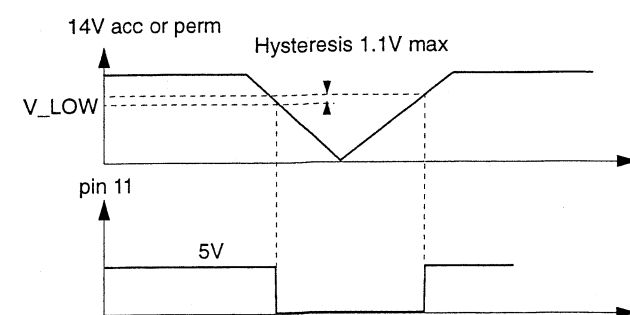
2) Set ON



3) V_LOW handling

If a V_LOW occurs during set is On or during set On/Off procedure is performed, the micro p. switches Off the set and finishes the write EEprom activities. After this action the hardware reset generation will be enabled and the micro p. goes to power down.

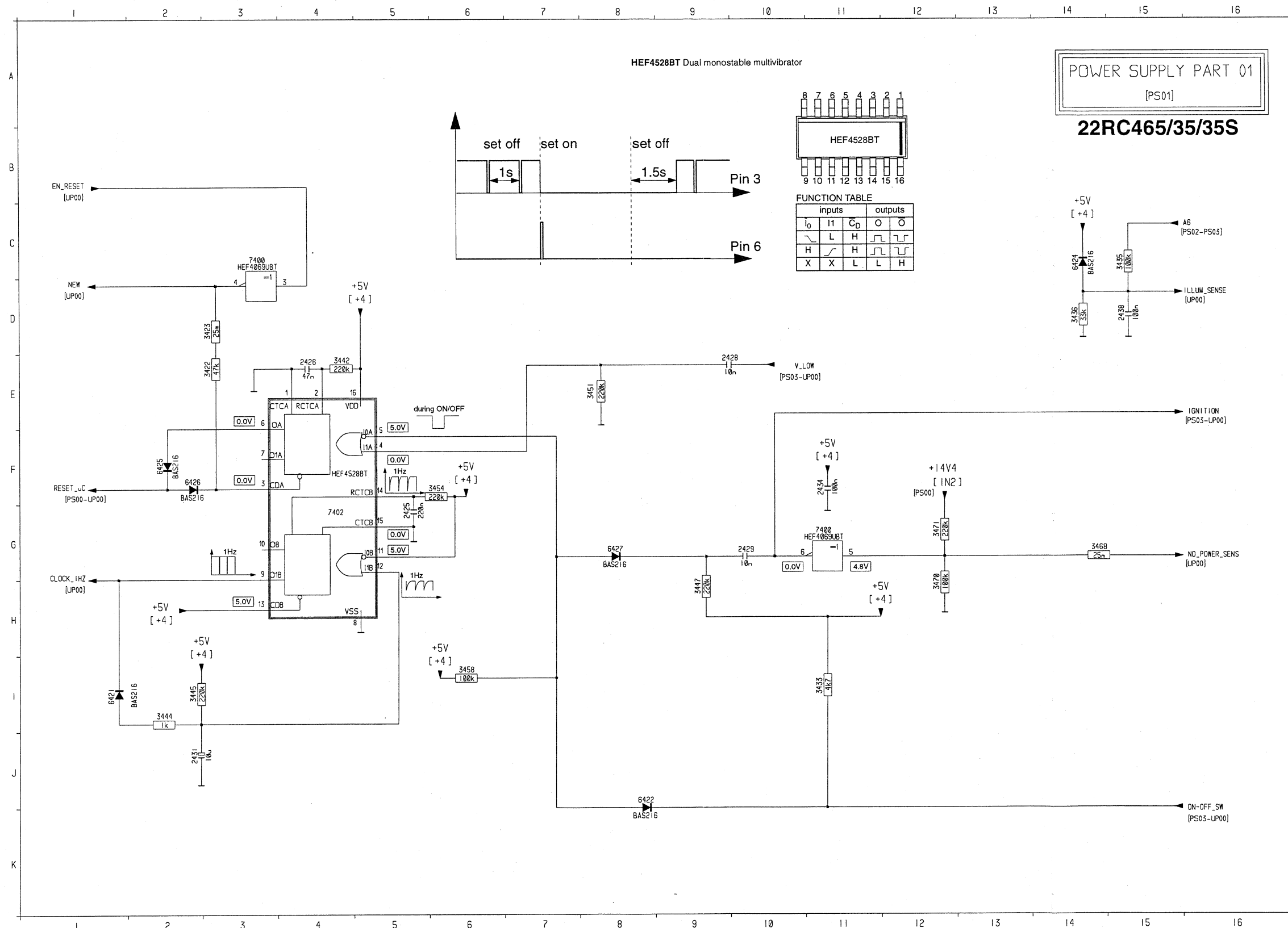
V_LOW handling



Technician's remarks

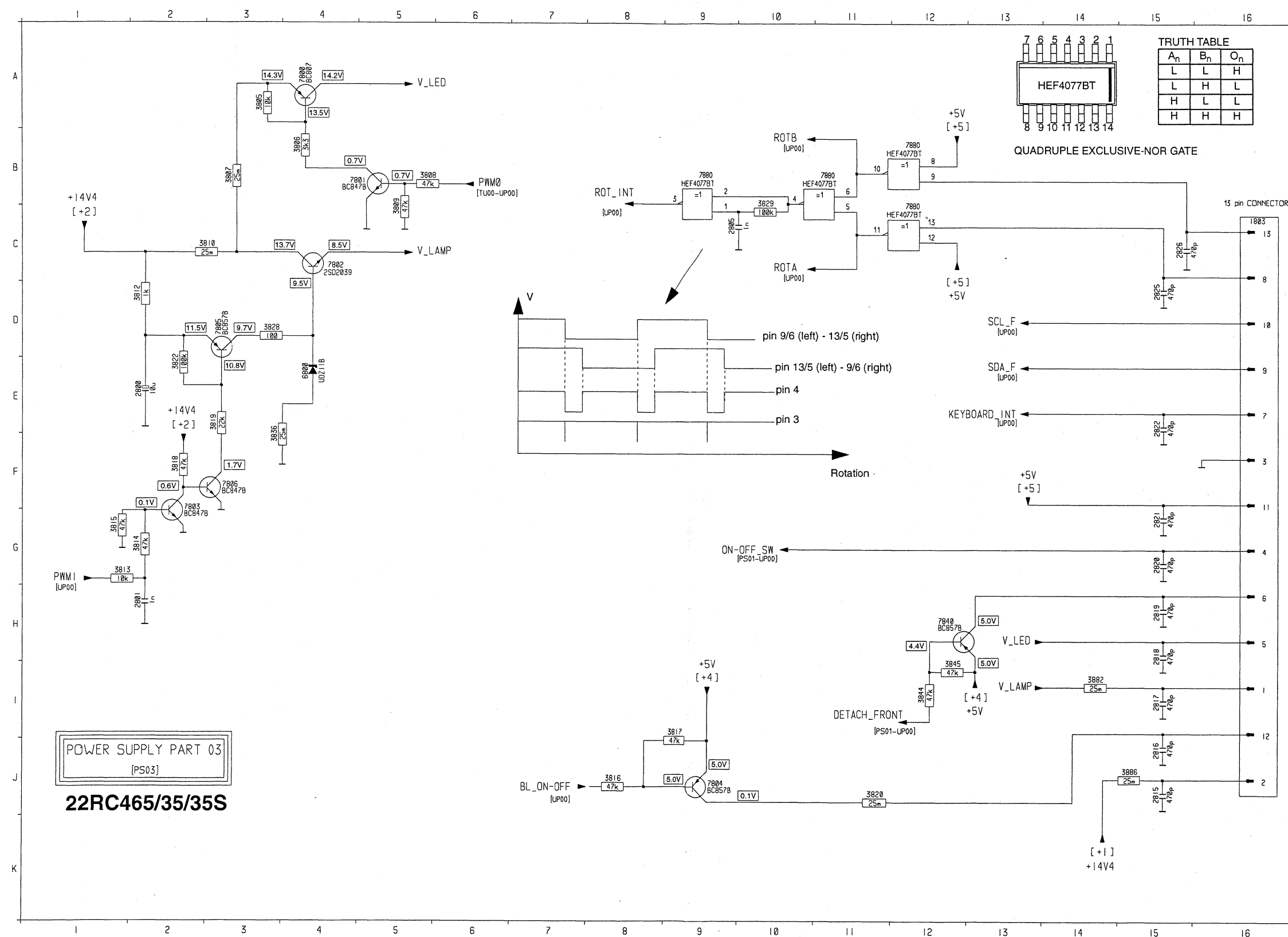
A6C15
 CLOCK_1HZG1
 EN_RESETB1
 IGNITIONE15
 ILLUM_SENSED15
 NEWD1

NO_POWER_SENSG15
 ON_OFF_SWJ15
 RESET_UCF1
 V_LOWD10



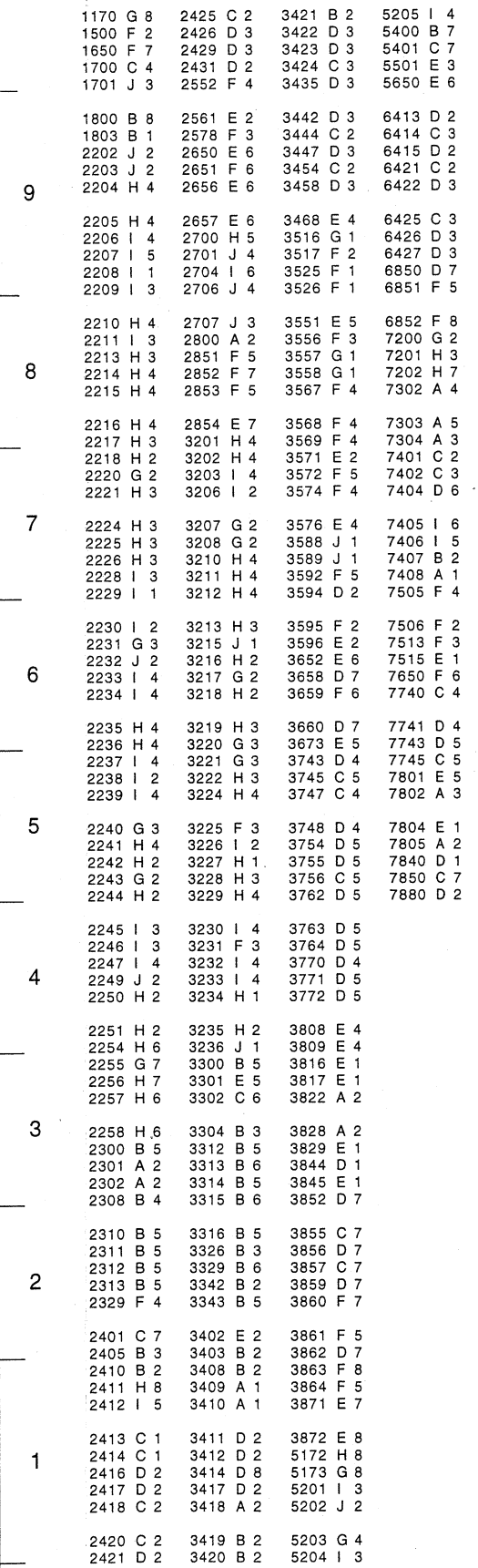
2425 G 5
 2426 E 4
 2428 D 9
 2429 G10
 2431 J 2
 2434 F11
 2438 D15
 3422 E 3
 3423 D 3
 3433 I11
 3435 C15
 3436 D14
 3442 E 4
 3444 I 2
 3445 I 2
 3447 H 9
 3451 D 8
 3454 F 6
 3458 I 6
 3468 G14
 3470 H12
 3471 G12
 6421 I 1
 6422 J 8
 6424 C14
 6425 F 2
 6426 F 2
 6427 G 8
 7400 C 3
 7400 G11
 7402 G 4

BL_ON-OFFJ7
 DETACH_FRONTI12
 KEYBOARD_INTE13
 ON-OFF_SWG10
 PWM1G1
 ROTAC10
 ROTBB10
 ROT_INTB8
 SCL_FD13
 SDA_FE13
 V_LAMPC5/I13
 V_LEDA5/H13

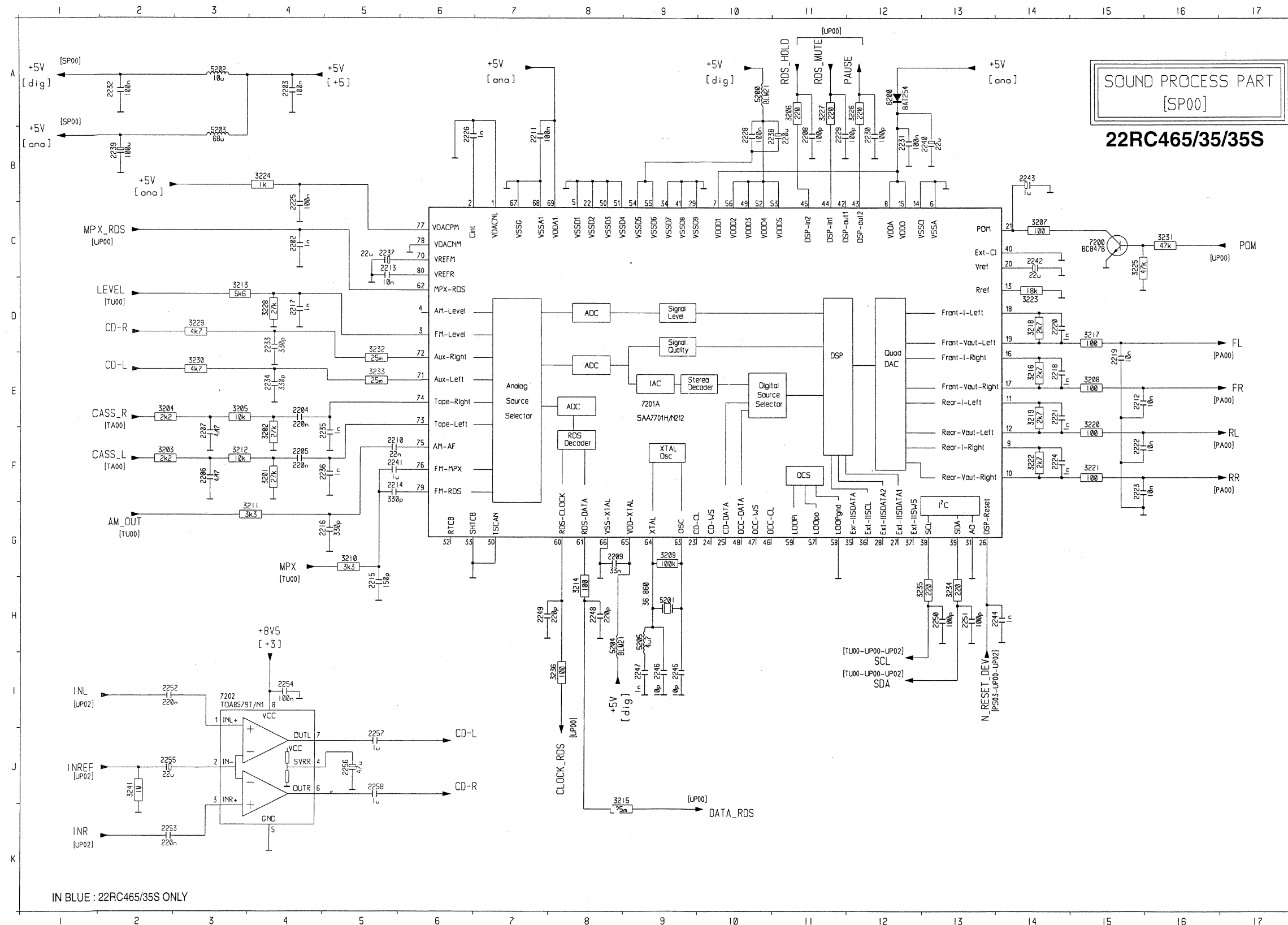


1803 C16
 2800 E 2
 2801 H 2
 2805 C 9
 2815 J15
 A 2816 J15
 2817 I15
 2818 H15
 2819 H15
 2820 G15
 B 2821 G15
 2822 E15
 2825 D15
 2826 C15
 3805 A 3
 C 3806 B 4
 3807 B 3
 3808 B 5
 3809 C 5
 3810 C 3
 D 3812 D 2
 3813 G 1
 3814 G 2
 3815 G 1
 3816 J 8
 E 3817 I 9
 3818 F 2
 3819 E 3
 3820 J11
 3822 E 2
 F 3828 D 3
 3829 B10
 3836 F 3
 3844 I12
 3845 I12
 G 3882 I14
 3886 J15
 6800 E 4
 7800 A 4
 7801 B 5
 7802 C 4
 7803 G 2
 7804 J 9
 7805 D 3
 7806 F 3
 H 7840 H13
 7880 B 9
 7880 B11
 7880 B12
 7880 C12

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AM_OUT.....G3	DATA_RDS.....K10	LEVEL.....D2	RDS_HOLD.....A11
CASS_L.....F2	FL.....D17	MPX.....H4	RDS_MUTE.....A11
CASS_R.....E2	FR.....E17	MPX_RDS.....C2	RL.....F17
CD_L.....E2/J6	INL.....I2	N_RESET_DEV.....I13	RR.....F17
CD_R.....D2/J6	INR.....K2	PAUSE.....A12	SCL.....I12
CLOCK_RDS.....J8	INREF.....J2	POM.....C17	SDA.....I12



2202	C 4	3215	J 8
2203	A 4	3216	E14
2204	E 4	3217	D15
2205	F 4	3218	D14
2206	F 3	3219	E14
2207	F 3	3220	E15
2208	B11	3221	F15
2209	G 8	3222	F14
2210	F 5	3223	D14
2211	B 7	3224	B 4
2212	E15	3225	C15
2213	C 5	3226	A12
2214	F 5	3227	A11
2215	H 5	3228	D 4
2216	G 5	3229	D 3
2217	D 4	3230	E 3
2218	E14	3231	C16
2219	E15	3232	D 5
2220	D14	3233	E 5
2221	E14	3234	H13
2222	F15	3235	H12
2223	F15	3236	I 8
2224	F14	3241	J 2
2225	C 4	5200	A10
2226	B 6	5201	H 9
2228	B10	5202	A 3
2229	B11	5203	B 3
2230	B12	5204	H 8
2231	B12	5205	H 9
2232	A 2	6200	A12
2233	D 4	7200	C15
2234	E 4	7201	E 9
2235	F 5	7202	I 3
2236	F 5		
2237	C 5		
2238	B11		
2239	B 2		
2240	B13		
2241	F 5		
2242	C14		
2243	B14		
2244	H14		
2245	I 9		
2246	I 9		
2247	I 9		
2248	H 8		
2249	H 7		
2250	H13		
2251	H13		
2252	I 2		
2253	K 2		
2254	I 4		
2255	J 2		
2256	J 5		
2257	J 5		
2258	J 5		
3201	F 4		
3202	F 4		
3203	F 2		
3204	E 2		
3205	E 3		
3206	A11		
3207	C14		
3208	E15		
3209	G 9		
3210	G 5		
3211	G 4		
3212	F 3		
3213	D 3		
3214	H 8		

TAPE PART
[TA00]

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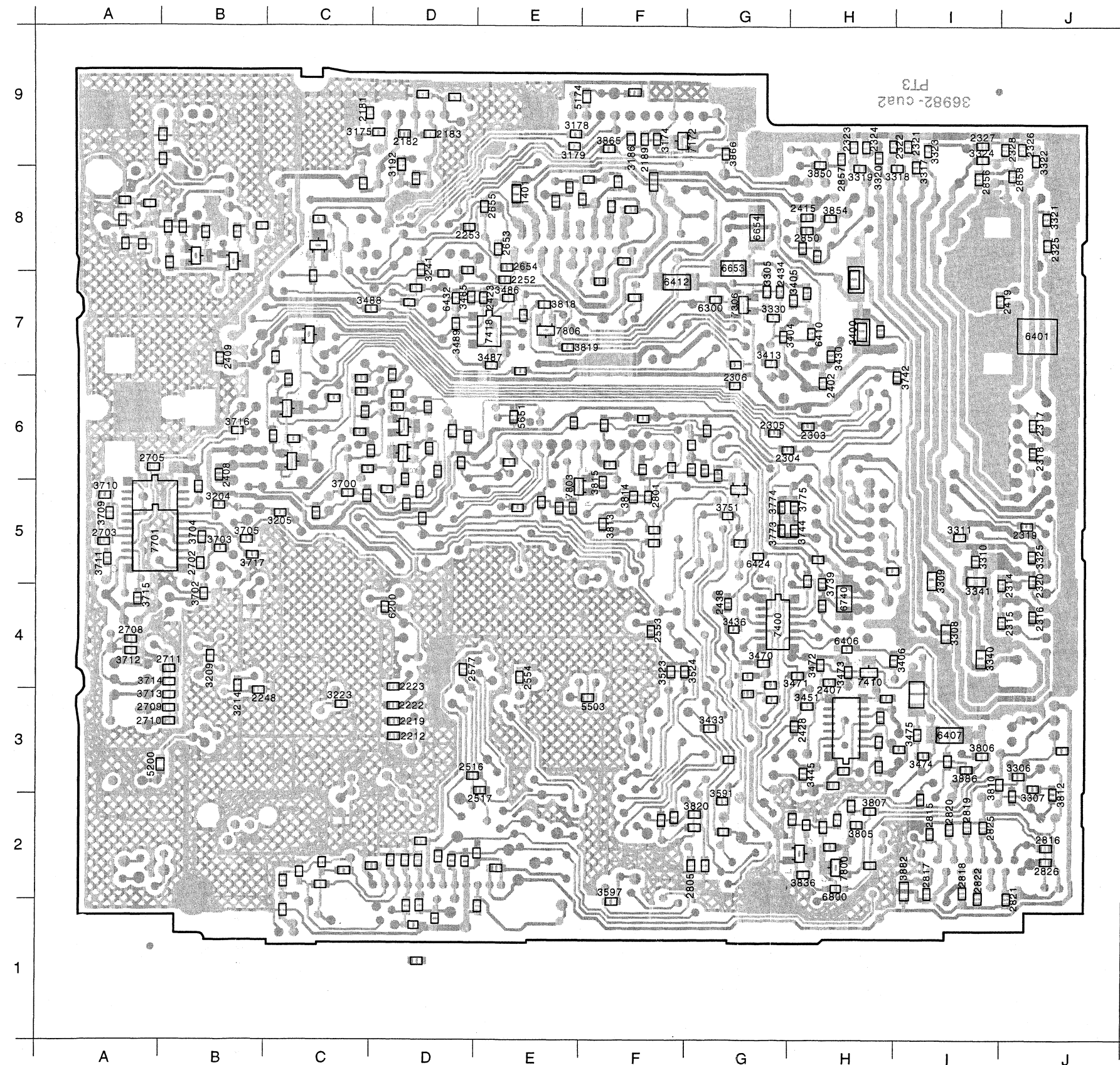
IN BLUE: FOR 22RC465/35S ONLY

DECK	NAME
MOTOR_CTRL	MOT_DATA
SOLENOID	SOLENEJECT
ME/FE_AUTO	ME/FE_RES
PLAY_SWITCH	PLAY_LOADER
MUTE_SWITCH	MUTE_EN
TRACK_SWITCH	TRACK_DEEM
-----	SCA_CD_CLOCK
	GALA_CD_MRD

DECK	NAME
MOTOR_CTRL	MOT_DATA
SOLENOID	SOLENJECT
ME/FE_AUTO	ME_FE_RES
PLAY_SWITCH	PLAY_LOADER
MUTE_SWITCH	MUTE_EN
TRACK_SWITCH	TRACK_DEEM
-----	SCA_CD_CLOCK
	GALA_CD_MRO

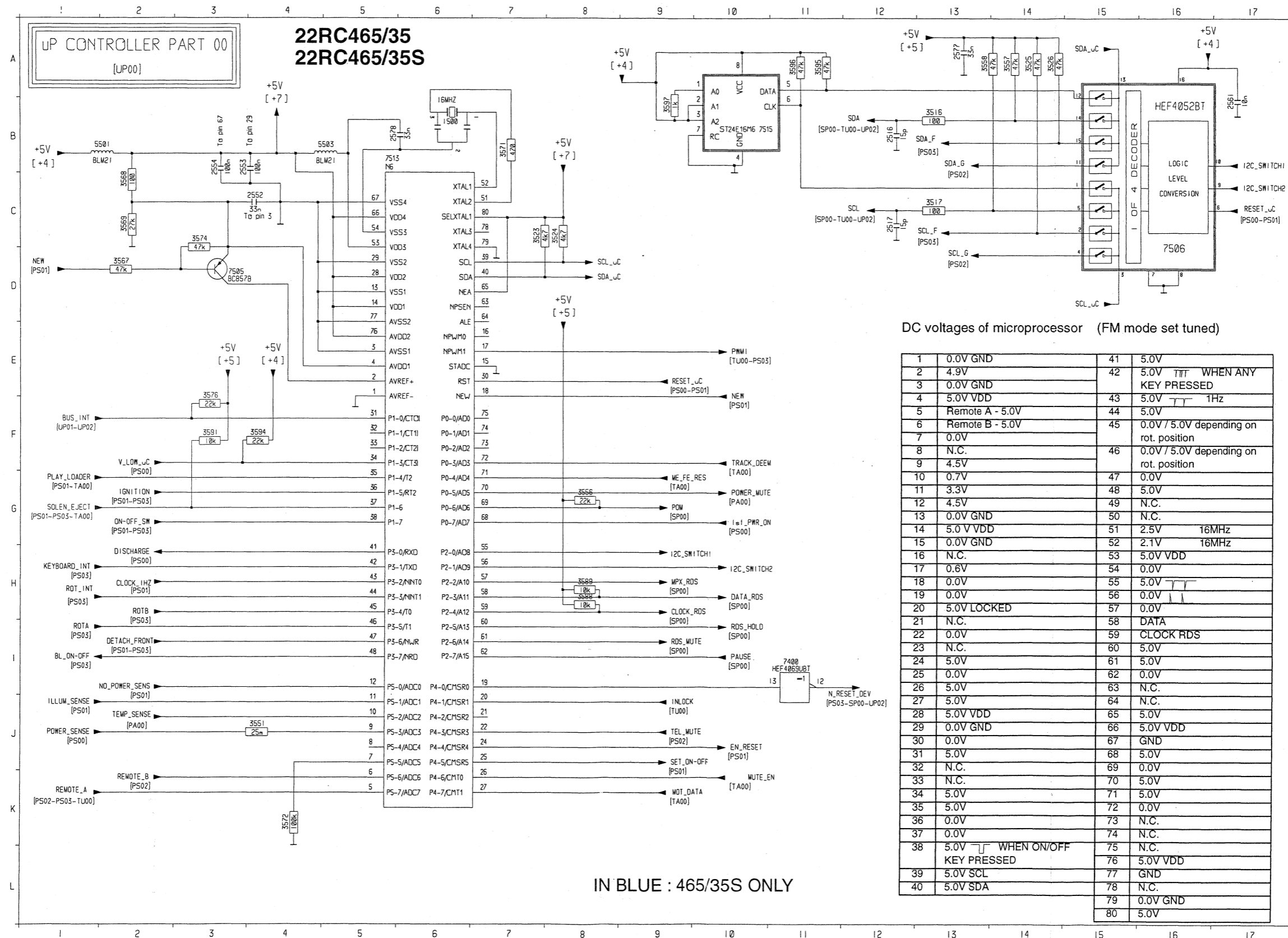
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	1700	H 5
	1700	H 5
	1700	I 5
B	1700	I 5
	1700	J 5
	1700	J 5
	1700	K 5
	1700	K 5
C	2700	A10
	2701	A11
	2702	A12
	2703	F12
	2704	F12
D	2705	F11
	2706	E11
	2707	C 9
	2708	C 8
	2709	B 8
E	2710	C 9
	2711	B 9
	3700	A 9
	3702	A11
	3703	A12
F	3704	A12
	3705	A13
	3709	E12
	3710	E12
	3711	E11
G	3712	C 8
	3713	B 8
	3714	B 8
	3715	C 8
	3716	F10
H	3717	A13
	3739	I 5
	3742	H 6
	3743	J 9
	3744	I10
I	3745	I11
	3747	K11
	3748	K10
	3751	I 6
	3754	J 7
J	3755	J 7
	3756	G 6
	3762	H 8
	3763	H 8
	3764	H 9
K	3770	J10
	3771	J10
	3772	J 9
	3773	J10
	3774	I11
L	3775	I11
	6740	J 5
	7400	K12
	7701	C10
	7740	I10
M	7741	K10
	7743	J 6
	7745	H 9

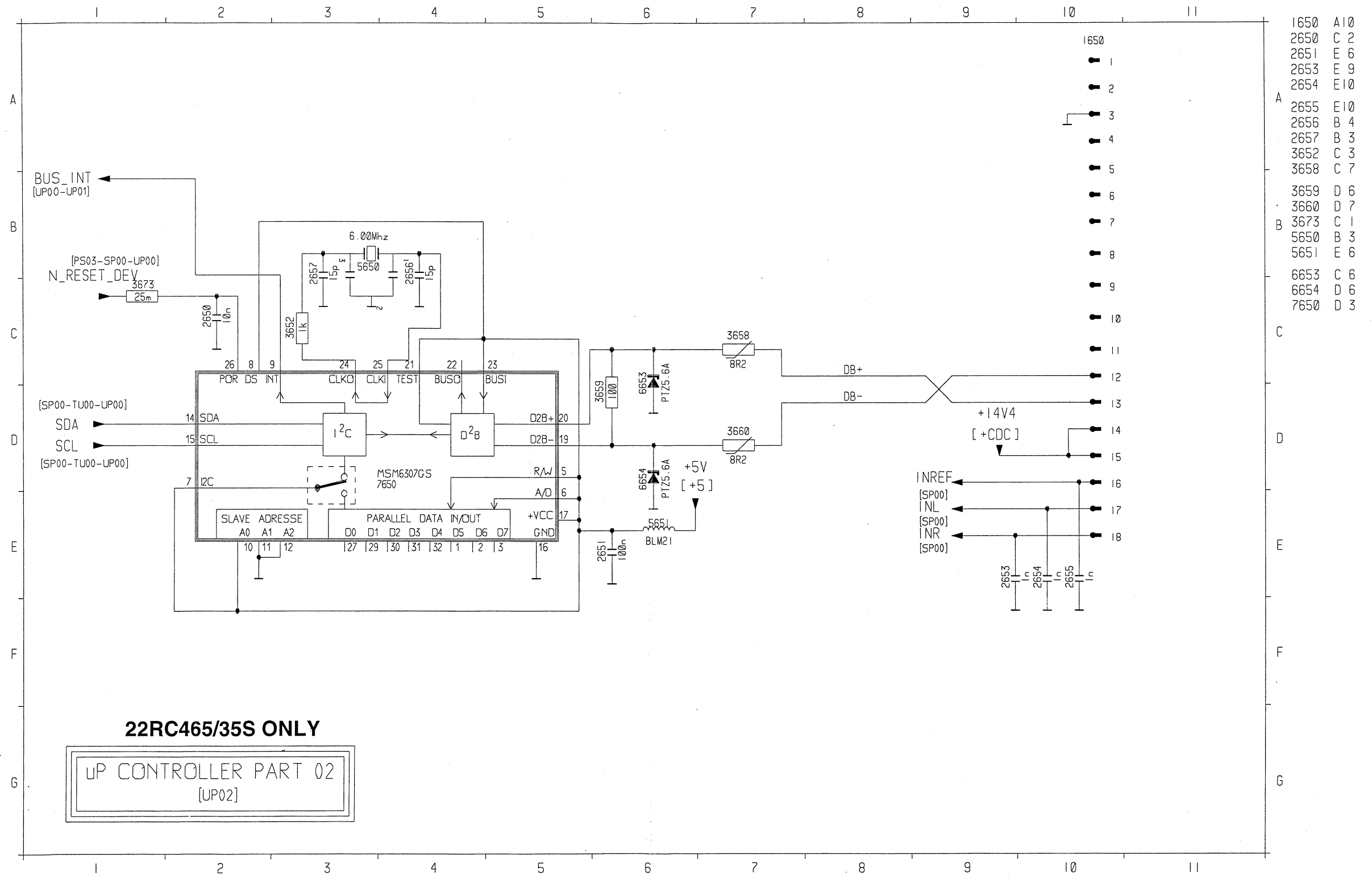
22RC465/35../35S



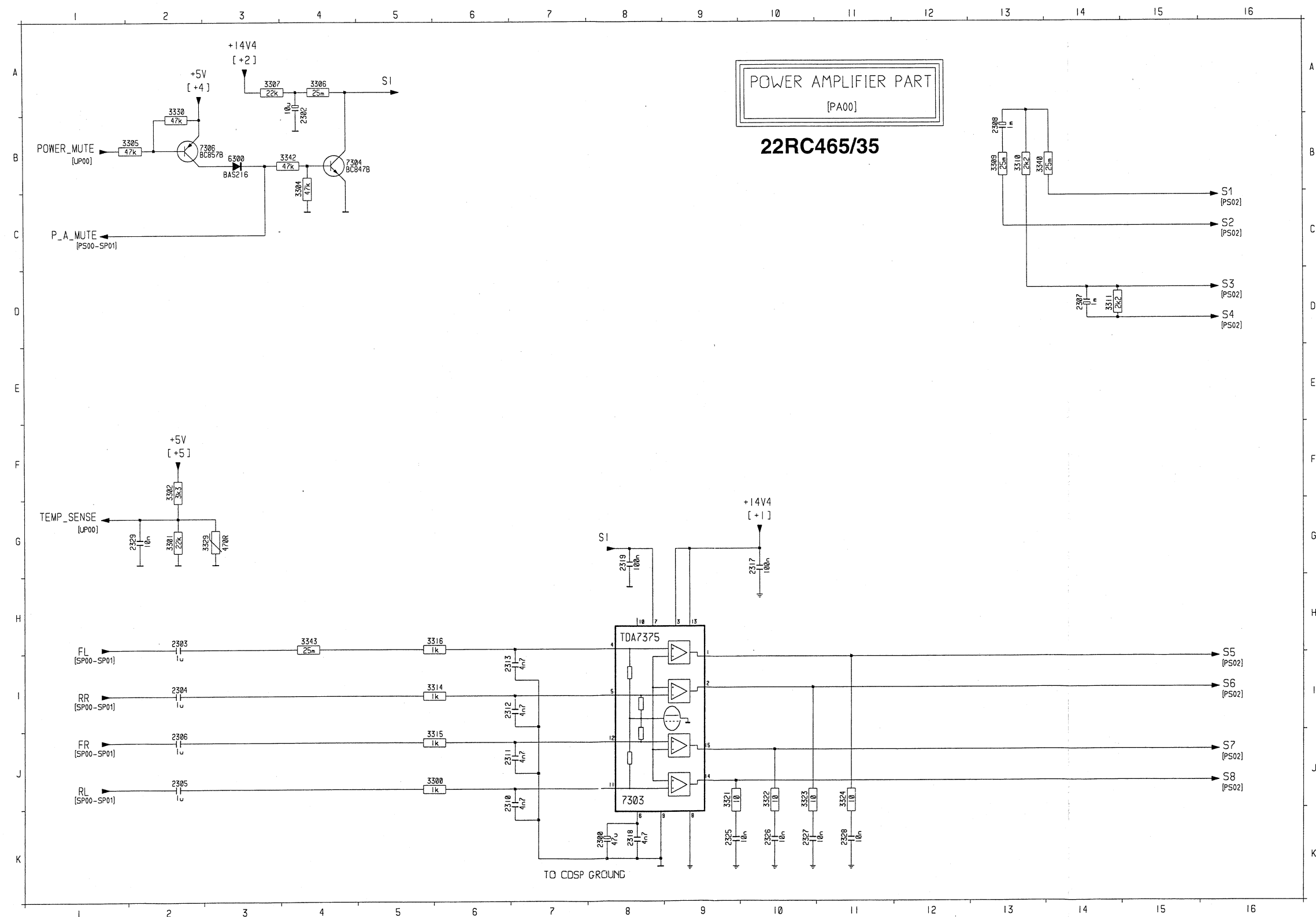
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2181	H	8	3204	I	5	3814	E	5
2182	G	8	3205	H	5	3815	E	5
2183	G	8	3209	I	3	3818	F	7
2189	E	8	3214	I	3	3819	F	6
2212	G	2	3223	H	3	3820	E	2
2219	G	3	3241	G	7	3836	C	1
2222	G	3	3305	D	7	3850	C	8
2223	G	3	3306	A	2	3854	C	7
2248	I	3	3307	A	2	3865	E	8
2252	F	7	3308	B	3	3866	D	8
2253	G	7	3309	B	4	3882	C	1
2303	C	5	3310	B	4	3886	B	2
2304	D	5	3311	B	4	4999	G	8
2305	D	5	3317	B	8	5174	F	8
2306	D	6	3318	C	8	5200	J	2
2314	B	4	3319	C	8	5503	F	3
2315	B	3	3320	C	8	5651	F	5
2316	A	4	3321	A	7	6200	G	4
2317	A	5	3322	A	8	6300	D	7
2318	A	5	3323	B	8	6401	A	6
2319	A	4	3324	B	8	6406	C	3
2320	A	4	3325	A	4	6407	B	2
2321	B	8	3330	D	6	6410	C	6
2322	C	8	3340	B	3	6412	E	7
2323	C	8	3341	B	4	6424	D	4
2324	C	8	3400	C	6	6432	G	7
2325	A	7	3404	D	6	6653	D	7
2326	A	8	3405	D	7	6654	D	7
2327	B	8	3406	C	3	6740	C	4
2328	B	8	3413	D	6	6800	C	1
2402	C	6	3430	C	6	7172	E	8
2407	C	3	3433	D	2	7306	D	7
2408	I	5	3436	D	3	7400	D	3
2409	I	6	3445	C	2	7410	C	3
2415	C	7	3451	C	3	7418	F	6
2419	B	7	3470	D	3	7701	J	4
2423	G	7	3471	D	3	7800	C	1
2428	D	2	3472	C	3	7803	F	5
2434	D	7	3473	C	3	7806	F	6
2438	D	4	3474	B	2			
2516	G	2	3475	B	2			
2517	G	2	3485	G	7			
2553	E	3	3486	F	7			
2554	F	3	3487	F	6			
2577	G	3	3488	H	6			
2653	F	7	3489	G	6			
2654	F	7	3523	E	3			
2655	G	7	3524	E	3			
2702	I	4	3591	D	2			
2703	J	4	3597	E	1			
2705	J	5	3700	H	5			
2708	J	3	3702	I	4			
2709	J	3	3703	I	4			
2710	J	3	3704	I	4			
2711	J	3	3705	I	4			
2801	E	5	3709	J	5			
2805	E	1	3710	J	5			
2815	B	1	3711	J	4			
2816	A	1	3712	J	3			
2817	B	1	3713	J	3			
2818	B	1	3714	J	3			
2819	B	2	3715	J	3			
2820	B	1	3716	I	5			
2821	B	1	3717	I	4			
2822	B	1	3739	C	4			
2825	B	2	3742	C	6			
2826	A	1	3744	D	4			
2850	C	7	3751	D	4			
2856	B	8	3773	D	4			
2857	C	8	3774	D	5			
2858	B	8	3775	D	5			
3174	E	8	3805	C	2			
3175	H	8	3806	B	2			
3178	F	8	3807	C	2			
3179	F	8	3810	B	2			
3186	E	8	3812	A	2			

1st_PWR_ON.....G10	DETACH_FRONT.....I2	ILLUM_SENSE.....J1	MUTE_EN.....K10	PLAY_LOADER.....G1	RDS_MUTE.....I9	ROT_INT.....H1	SDA_F.....B13	TEMP_SENSE.....J2
BL_ON-OFF.....I1	DISCHARGE.....H2	INLOCK.....J9	NEW.....D1/E10	POM.....G9	REMOTE_A.....K1	SCL.....C12	SDA_G.....B13	TRACK_DEEM.....F10
BUS_INT.....F1	EN_RESET.....J10	KEYBOARD_INT.....H1	NO_POWER_SENS.....I2	POWER_MUTE.....G10	REMOTE_B.....K2	SCL_F.....C13	SDA_uC.....D8/A15	V_LOW_uC.....F2
CLOCK_1HZ.....H2	I2C_SWITCH1.....H9/B17	ME_FE_RES.....G9	N_RESET_DEV.....I12	POWER_SENS.....J1	RESET_uC.....E9/C17	SCL_G.....D13	SET_ON-OFF.....J9	
CLOCK_RDS.....H9	I2C_SWITCH2.....H10/C17	MPX_RDS.....H9	ON-OFF_SW.....G2	PWM1.....E10	ROTA.....I1	SCL_uC.....D8/D15	SOLENEJECT.....G1	
DATA_RDS.....H10	IGNITION.....G2	MOT_DATA.....K9	PAUSE.....I10	RDS_HOLD.....I10	ROTB.....H1	SDA.....B12	TEL_MUTE.....J9	



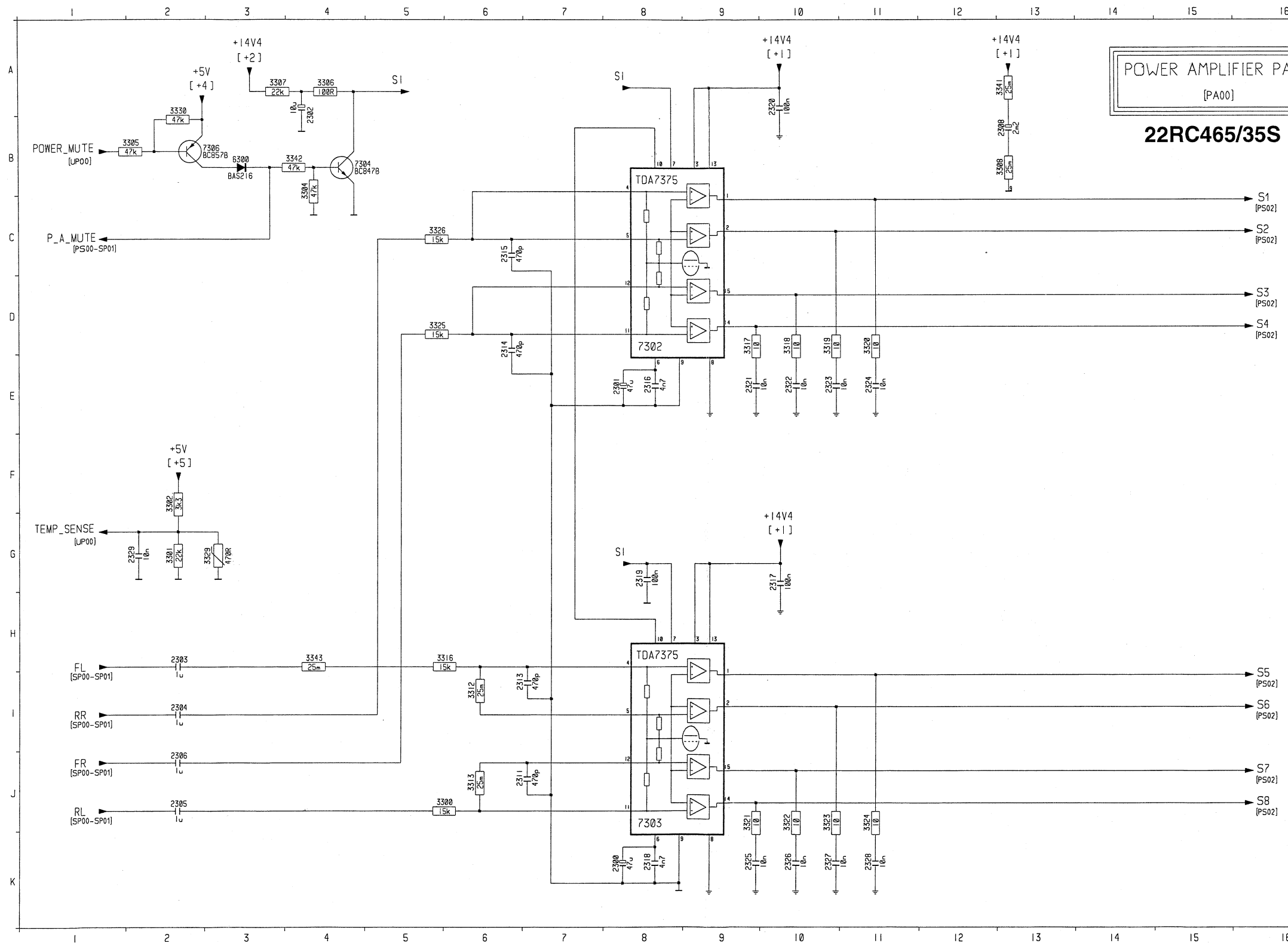


FL	H1	SI	A5-G8	S6	I16
FR	J1	S1	C16	S7	J16
PA_MUTE	C1	S2	C16	S8	J16
POWER_MUTE	B1	S3	D16	TEMP_SENSE	G1
RL	J1	S4	D16		
RR	I1	S5	I16		



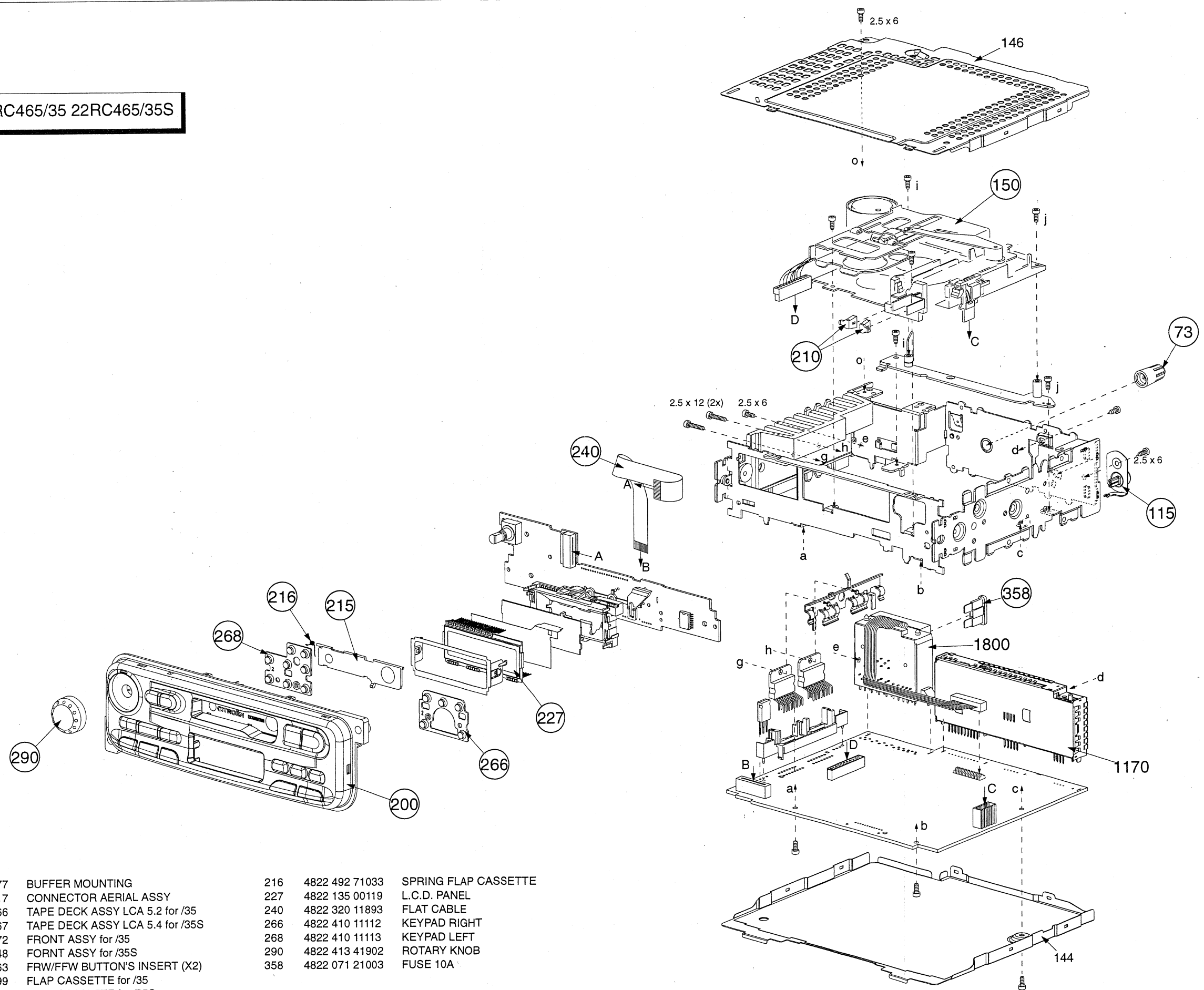
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2302	A 4
2303	H 2
2304	I 2
2305	J 2
2306	J 2
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2308	B13
2310	J 6
2311	J 6
2312	I 6
2313	I 6
2317	G10
2318	K 8
2319	G 8
2325	K 9
2326	K10
2327	K10
2328	K11
2329	G 2
3300	J 6
3301	G 2
3302	F 2
3304	B 4
3305	B 2
3306	A 4
3307	A 3
3309	B13
3310	B13
3311	D14
3314	I 6
3315	J 6
3316	H 6
3321	J 9
3322	J10
3323	J10
3324	J11
3329	G 3
3330	A 2
3340	B13
3342	B 4
3343	H 4
6500	B 3
7303	J 8
7304	B 4
7306	B 2

FL	H1	SI	A5-A8-G8	S6	I16
FR	J1	S1	C16	S7	J16
PA_MUTE.....	C1	S2	C16	S8	J16
POWER_MUTE	B1	S3	D16	TEMP_SENSE	G1
RL	J1	S4	D16		
RR	I1	S5	I16		



A	2300	K 8
	2301	E 8
	2302	A 4
	2303	H 2
	2304	I 2
	2305	J 2
	2306	J 2
	2308	B13
	2311	J 6
	2313	I 6
B	2314	D 6
	2315	C 6
	2316	E 8
	2317	G10
	2318	K 8
	2319	G 8
	2320	A10
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C	2322	E10
	2323	E10
	2324	E11
	2325	J 2
D	2326	K10
	2327	K10
	2328	K11
	2329	G 2
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	3301	G 2
	3302	F 2
	3304	B 4
E	3305	B 2
	3306	A 4
	3307	A 3
	3308	B13
F	3312	I 6
	3313	J 6
	3316	H 6
	3317	D 9
G	3318	D10
	3319	D10
	3320	D11
	3321	J 9
	3322	J10
	3323	J10
	3324	J11
	3325	D 5
	3326	C 5
	3329	G 3
H	3330	A 2
	3341	A13
	3342	B 4
	3343	H 4
I	6300	B 3
	7302	D 8
	7303	J 8
	7304	B 4
	7306	B 2

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
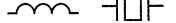
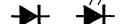
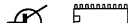









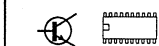
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115	4822 265 10717	CONNECTOR AERIAL ASSY	227	4822 135 00119	L.C.D. PANEL
150	4822 691 10466	TAPE DECK ASSY LCA 5.2 for /35	240	4822 320 11893	FLAT CABLE
150	4822 691 10467	TAPE DECK ASSY LCA 5.4 for /35S	266	4822 410 11112	KEYPAD RIGHT
200	4822 459 04572	FRONT ASSY for /35	268	4822 410 11113	KEYPAD LEFT
200	4822 459 04548	FRONT ASSY for /35S	290	4822 413 41902	ROTARY KNOB
210	4822 402 10463	FRW/FFW BUTTON'S INSERT (X2)	358	4822 071 21003	FUSE 10A
215	4822 443 10699	FLAP CASSETTE for /35			
215	4822 443 10629	FLAP CASSETTE for /35S			

Miscellaneous			⏏		
1170	4822 210 10721	TUNER IC96 12CV	2250	5322 122 32531	100pF 5% NP0 50V
1401	4822 252 51164	SM FUSE T1.5A 32V	2251	5322 122 32531	100pF 5% NP0 50V
1500	4822 242 10564	RES CER SM 16MHZ	2252	4822 126 13849	220nF10% 0805 X7R
1701	4822 267 40818	CON BM V 5P F 2.54	2253	4822 126 13849	220nF10% 0805 X7R
1800	4822 265 10941	CONN. BLOCK /35S	2254	4822 126 13196	100nF10% 0805 X7R
1800	4822 265 10955	CONN. BLOCK /35	2255	4822 124 23279	22 μF 20% 16V
⏏			2256	4822 124 22646	47 μF 20% 16V
2181	5322 122 32531	100pF 5% NP0	2257	4822 126 14043	1μF +80-20% 16V
2182	5322 122 32654	22nF 10% X7R	2258	4822 126 14043	1μF +80-20% 16V
2183	5322 122 32654	22nF 10% 50V X7R	2300	4822 124 22646	47μF 20%16V
2189	4822 126 13196	100nF 10% 25V X7R	2301	4822 124 22646	47μF 20%16V
2202	5322 122 34123	1nF 10% 50V X7R	2302	4822 124 41017	10μF 20% 16V
2203	4822 126 13196	100nF 10% 25V X7R	2303	4822 126 14043	1μF +80-20% 16V 0805
2204	4822 126 13849	220nF 10% X7R 16V	2304	4822 126 14043	1μF +80-20% 16V 0805
2205	4822 126 13849	220nF 10% X7R 16V	2305	4822 126 14043	1μF +80-20% 16V 0805
2206	5322 126 10223	4,7nF 10% X7R 50V	2306	4822 126 14043	1μF +80-20% 16V 0805
2207	5322 126 10223	4,7nF 10% X7R 50V	2307	4822 124 80766	1000μF 20% 25V
2208	5322 122 32531	100pF 5% NP0 50V	2308	4822 124 80766	1000μF 20% 25V /35
2209	4822 122 33342	33nF 10% X7R 50V	2308	4822 124 80769	2200μF 20% 16V /35S
2210	5322 122 32654	22nF 10% 50V	2310	5322 126 10223	4N7 10% 50V
2211	4822 126 13196	100nF 10% X7R 25V	2311	5322 122 32268	470PF 5% 0805 NP0 /35S
2212	5322 122 34098	10nF 10% X7R 50V	2311	5322 126 10223	4N7 10% 50V 0805 /35
2213	5322 122 34098	10nF 10% X7R 50V	2312	5322 126 10223	4N7 10% 50V 0805
2214	5322 122 31863	330pF 5% NP0 50V	2313	5322 122 32268	470PF 5% 0805 NP0 /35S
2215	5322 122 33538	150pF 5% NP0 50V	2313	5322 126 10223	4N7 10% 50V 0805 /35
2216	5322 122 31863	330pF 5% NP0 50V	2314	5322 122 32268	470PF 5% 0805 NP0
2217	5322 122 34123	1nF 10% X7R 50V	2315	5322 122 32268	470PF 5% 0805 NP0
2218	5322 122 34123	1nF 10% X7R 50V	2316	5322 126 10223	4N7 10% X7R 50V
2219	5322 122 34098	10nF 10% X7R 50V	2317	4822 126 13196	100nF10% X7R 25V
2220	5322 122 34123	1nF 10% X7R 50V	2318	5322 126 10223	4N7 10% 50V 0805
2221	5322 122 34123	1nF 10% X7R 50V	2319	4822 126 13196	100nF10% X7R 25V
2222	5322 122 34098	10nF 10% X7R 50V	2320	4822 126 13196	100nF10% X7R 25V
2223	5322 122 34098	10nF 10% X7R 50V	2321	5322 122 34098	10nF10% X7R 50V
2224	5322 122 34123	1nF 10% X7R 50V	2322	5322 122 34098	10nF10% X7R 50V
2225	4822 126 13196	100nF 10% X7R 25V	2323	5322 122 34098	10nF10% X7R 50V
2226	5322 122 34123	1nF 10% X7R 50V	2324	5322 122 34098	10nF10% X7R 50V
2228	4822 126 13196	100nF 10% X7R 25V	2325	5322 122 34098	10nF10% X7R 50V
2229	5322 122 32531	100pF 5% NP0 50V	2326	5322 122 34098	10nF10% X7R 50V
2230	5322 122 32531	100pF 5% NP0 50V	2327	5322 122 34098	10nF10% X7R 50V
2231	4822 126 13196	100nF10% X7R 25V	2328	5322 122 34098	10nF10% X7R 50V
2232	4822 126 13196	100nF10% X7R 25V	2329	5322 122 34098	10nF10% X7R 50V
2233	5322 122 31863	330PF 5% 0805 NP0	2401	5322 126 10223	4N7 10% X7R 50V
2234	5322 122 31863	330PF 5% 0805 NP0	2402	4822 122 33342	33nF10% X7R 50V
2235	5322 122 34123	1nF 10% X7R 50V	2405	4822 124 80769	2200μF 20% 16V
2236	5322 122 34123	1nF 10% X7R 50V	2407	5322 122 32268	470pF5% NP0 50V
2237	4822 124 23279	22μF 20% 16V	2408	4822 126 13849	220nF10% X7R 16V
2238	4822 124 23582	220μF 20% 10V	2409	4822 126 13849	220nF10% X7R 16V
2239	4822 124 80453	100μF 20% 10V	2410	4822 124 80766	1000μF 20% 25V
2240	4822 124 23279	22μF 20% 16V	2411	4822 124 80453	100μF 20% 10V
2241	4822 126 14043	1μF +80-20% 16V	2412	4822 124 23281	33μF 20% 16V
2242	4822 124 23279	22μF 20% 16V	2413	4822 126 13343	47nF10% X7R 25V
2243	4822 124 23282	1μF 20% 50V	2414	4822 124 23282	1μF 20% 50V
2244	5322 122 34123	1nF10% X7R 50V	2415	4822 122 33575	220pF5% NP0 50V
2245	5322 122 32448	10pF 5% NP0 50V	2416	4822 124 22646	47μF 20% 16V
2246	5322 122 32448	10pF 5% NP0 50V	2417	4822 126 14043	1μF +80-20% 16V
2247	5322 122 34123	1nF10% X7R 50V	2418	4822 126 13849	220nF10% X7R 16V
2248	4822 122 33575	220pF 5% NP0 50V	2419	5322 126 10223	4N7 10% X7R 50V
2249	4822 122 33575	220pF 5% NP0 50V	2420	4822 126 13196	100nF10% X7R 25V
			2421	4822 126 14043	1μF +80-20% 16V
			2423	5322 122 32654	22nF10% X7R 50V

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2425	4822 126 13849	220nF10% X7R 16V	3179	4822 051 20008	JUMP. MAX 0R05 0805
2426	4822 126 13343	47nF10% X7R 25V	3186	4822 117 11449	2K2 5% 0,1W
2428	5322 122 34098	10nF10% X7R 50V	3192	4822 051 20008	JUMP. MAX 0R05 0805
2429	5322 122 34098	10nF10% X7R 50V	3201	4822 051 20273	27KΩ 5% 0,1W
2431	4822 124 41017	10μF 20% 16V	3202	4822 051 20273	27KΩ 5% 0,1W
2434	4822 126 13196	100nF10% X7R 25V	3203	4822 117 11449	2K2 5% 0,1W
2438	4822 126 13196	100nF10% X7R 25V	3204	4822 117 11449	2K2 5% 0,1W
2516	5322 122 33869	15pF5% NP0 50V	3205	4822 117 10833	10KΩ 5% 0,1W
2517	5322 122 33869	15pF5% NP0 50V	3206	4822 117 11503	220Ω 5% 0,1W
2552	4822 122 33342	33nF10% X7R 50V	3207	4822 051 20101	100Ω 5% 0,1W
2553	4822 126 13196	100nF10% X7R 25V	3208	4822 051 20101	100Ω 5% 0,1W
2554	4822 126 13196	100nF10% X7R 25V	3209	4822 051 20104	100KΩ 5% 0,1W
2561	5322 122 34098	10nF10% X7R 50V	3210	4822 051 20332	3K3 5% 0,1W
2577	4822 122 33342	33nF10% X7R 50V	3211	4822 051 20332	3K3 5% 0,1W
2578	4822 122 33342	33nF10% X7R 50V	3212	4822 117 10833	10KΩ 5% 0,1W
2650	5322 122 34098	10nF10% X7R 50V	3213	4822 051 20562	5K6 5% 0,1W
2651	4822 126 13196	100nF10% X7R 25V	3214	4822 051 20101	100Ω 5% 0,1W
2653	5322 122 34123	1nF10% 50V 0805 X7R	3215	4822 051 20008	JUMP. MAX 0R05
2654	5322 122 34123	1nF10% 50V 0805 X7R	3216	4822 051 20272	2K7 5% 0,1W
2655	5322 122 34123	1nF10% 50V 0805 X7R	3217	4822 051 20101	100Ω 5% 0,1W
2656	5322 122 33869	15pF5% NP0 50V	3218	4822 051 20272	2K7 5% 0,1W
2657	5322 122 33869	15pF5% NP0 50V	3219	4822 051 20272	2K7 5% 0,1W
2700	4822 124 41017	10μF 20% 16V	3220	4822 051 20101	100Ω 5% 0,1W
2701	4822 124 41017	10μF 20% 16V	3221	4822 051 20101	100Ω 5% 0,1W
2702	5322 122 34098	10nF10% X7R 50V	3222	4822 051 20272	2K7 5% 0,1W
2703	5322 122 34098	10nF10% X7R 50V	3223	4822 117 10965	18KΩ 5% 0,1W
2704	4822 124 80453	100μF 20% 10V	3224	4822 051 20102	1KΩ 5% 0,1W
2705	5322 122 32654	22nF 10% X7R 50V	3225	4822 051 20473	47KΩ 5% 0,1W
2706	4822 124 41017	10μF 20% 16V	3226	4822 117 11503	220Ω 5% 0,1W
2707	4822 124 80453	100μF 20% 10V	3227	4822 117 11503	220Ω 5% 0,1W
2708	5322 116 80853	560pF 5% NP0 50V	3228	4822 051 20273	27KΩ 5% 0,1W
2709	5322 116 80853	560pF 5% NP0 50V	3229	4822 051 20472	4K7 5% 0,1W
2710	5322 116 80853	560pF 5% NP0 50V	3230	4822 051 20472	4K7 5% 0,1W
2711	5322 116 80853	560pF 5% NP0 50V	3231	4822 051 20473	47KΩ 5% 0,1W
2800	4822 124 41017	10μF 20% 16V	3232	4822 051 20008	JUMP MAX 0R05
2801	5322 122 34123	1nF10% X7R 50V	3233	4822 051 20008	JUMP MAX 0R05
2805	5322 122 34123	1nF10% X7R 50V	3234	4822 117 11503	220Ω 5% 0,1W
2815	5322 122 32268	470pF 5% NP0 50V	3235	4822 117 11503	220Ω 5% 0,1W
2816	5322 122 32268	470pF 5% NP0 50V	3236	4822 051 20101	100Ω 5% 0,1W
2817	5322 122 32268	470pF 5% NP0 50V	3241	4822 051 20105	1M 5% 0,1W
2818	5322 122 32268	470pF 5% NP0 50V	3300	4822 051 20102	1KΩ 5% 0,1W /35
2819	5322 122 32268	470pF 5% NP0 50V	3300	4822 051 20153	15KΩ 5% 0805 /35S
2820	5322 122 32268	470pF 5% NP0 50V	3301	4822 051 20223	22KΩ 5% 0,1W
2821	5322 122 32268	470pF 5% NP0 50V	3302	4822 051 20332	3K3 5% 0,1W
2822	5322 122 32268	470pF 5% NP0 50V	3304	4822 051 20473	47KΩ 5% 0,1W
2825	5322 122 32268	470pF 5% NP0 50V	3305	4822 051 20473	47KΩ 5% 0,1W
2826	5322 122 32268	470pF 5% NP0 50V	3306	4822 051 20008	JUMP MAX 0R05 /35
2850	5322 122 34123	1nF10% X7R 50V	3306	4822 051 20101	100Ω 5% 0,1W /35S
2851	5322 122 34123	1nF10% X7R 50V	3307	4822 051 20223	22KΩ 5% 0,1W
2852	5322 122 34098	10nF10% X7R 50V	3308	4822 051 10008	JUMP MAX 0R05 1206
2853	5322 122 34123	1nF10% X7R 50V	3309	4822 051 10008	JUMP MAX 0R05 1206
2854	5322 122 34098	10nF10% X7R 50V	3310	4822 117 11449	2K2 5% 0,1W
2856	5322 122 32531	100pF5% NP0 50V	3311	4822 117 11449	2K2 5% 0,1W
2857	5322 122 32531	100pF5% NP0 50V	3312	4822 051 20008	JUMP MAX 0R05 0805
2858	5322 122 32531	100pF5% NP0 50V	3313	4822 051 20008	JUMP MAX 0R05 0805
⏏			3314	4822 051 20102	1KΩ 5% 0,1W
3174	4822 051 20332	3K3 5% 0,1W	3315	4822 051 20102	1KΩ 5% 0,1W
3175	4822 051 20102	1KΩ 5% 0,1W	3316	4822 051 20102	1KΩ 5% 0,1W /35
3178	4822 051 20008	JUMP. MAX 0R05 0805	3316	4822 051 20153	15KΩ 5% 0,1W /35S
			3317	4822 051 20109	10Ω 5% 0,1W

					
3318	4822 051 20109	10Ω 5% 0,1W	3487	4822 117 10833	10KΩ 5% 0,1W
3319	4822 051 20109	10Ω 5% 0,1W	3488	4822 117 10833	10KΩ 5% 0,1W
3320	4822 051 20109	10Ω 5% 0,1W	3489	4822 051 20224	220KΩ 5% 0,1W
3321	4822 051 20109	10Ω 5% 0,1W	3516	4822 051 20101	100Ω 5% 0,1W
3322	4822 051 20109	10Ω 5% 0,1W	3517	4822 051 20101	100Ω 5% 0,1W
3323	4822 051 20109	10Ω 5% 0,1W	3523	4822 051 20472	4K7 5% 0,1W
3324	4822 051 20109	10Ω 5% 0,1W	3524	4822 051 20472	4K7 5% 0,1W
3325	4822 051 20153	15KΩ 5% 0,1W	3525	4822 051 20473	47KΩ 5% 0,1W
3326	4822 051 20153	15KΩ 5% 0,1W	3526	4822 051 20473	47KΩ 5% 0,1W
3329	4822 116 40255	PTC 470Ω 5% 0 16V	3551	4822 051 20008	JUMP. MAX 0R05 0805
3330	4822 051 20473	47KΩ 5% 0,1W	3556	4822 051 20223	JUMP. MAX 0R05 0805
3340	4822 051 10008	JUMP MAX 0R05 1206	3557	4822 051 20473	47KΩ 5% 0,1W
3341	4822 051 10008	JUMP MAX 0R05 1206	3558	4822 051 20473	47KΩ 5% 0,1W
3342	4822 051 20473	47KΩ 5% 0,1W	3567	4822 051 20473	47KΩ 5% 0,1W
3343	4822 051 20008	JUMP. MAX 0R05 0805	3568	4822 051 20101	100Ω 5% 0,1W
3400	4822 051 10008	JUMP MAX 0R05 1206	3569	4822 051 20273	27KΩ 5% 0,1W
3402	4822 051 20473	47KΩ 5% 0,1W	3571	4822 051 20471	470Ω 5% 0,1W
3403	4822 051 20473	47KΩ 5% 0,1W	3572	4822 051 20104	100KΩ 5% 0,1W
3404	4822 051 20224	220KΩ 5% 0,1W	3574	4822 051 20473	47KΩ 5% 0,1W
3405	4822 051 20104	100KΩ 5% 0,1W	3576	4822 051 20223	22KΩ 5% 0,1W
3406	4822 051 20154	150KΩ 5% 0,1W	3588	4822 117 10833	10KΩ 5% 0,1W
3408	4822 051 20273	27KΩ 5% 0,1W	3589	4822 117 10833	10KΩ 5% 0,1W
3409	4822 051 20472	4K7 5% 0,1W	3591	4822 117 10833	10KΩ 5% 0,1W
3410	4822 051 20473	47KΩ 5% 0,1W	3592	4822 051 20008	JUMP. MAX 0R05 0805
3411	4822 051 20473	47KΩ 5% 0,1W	3594	4822 051 20223	22KΩ 5% 0,1W
3412	4822 051 20101	100Ω 5% 0,1W	3595	4822 051 20473	47KΩ 5% 0,1W
3413	4822 051 20102	1KΩ 5% 0,1W	3596	4822 051 20473	47KΩ 5% 0,1W
3414	4822 116 40267	PTC 3R3 PM25 20V	3597	4822 051 20102	1KΩ 5% 0,1W
3417	4822 051 20154	150KΩ 5% 0,1W	3652	4822 051 20102	1KΩ 5% 0,1W
3418	4822 051 20471	470Ω 5% 0805 /35	3658	4822 116 40221	PTC PTH 60G31AR8R2MT2
3418	4822 117 11503	220Ω 5% 0805 /35S	3659	4822 051 20101	100Ω 5% 0,1W
3419	4822 051 20471	470Ω 5% 0805 /35	3660	4822 116 40221	PTC PTH 60G31AR8R2MT2
3419	4822 117 11503	220Ω 5% 0805 /35S	3672	4822 051 20008	CHIP JUMPER 0805
3420	4822 051 20471	470Ω 5% 0805 /35	3673	4822 051 20008	CHIP JUMPER 0805
3420	4822 117 11503	220Ω 5% 0805 /35S	3690	4822 051 10008	CHIP JUMPER 1206
3421	4822 051 20471	470Ω 5% 0805 /35	3700	4822 051 20273	27KΩ 5% 0,1W
3421	4822 117 11503	220Ω 5% 0805 /35S	3702	4822 051 20122	1K2 5% 0,1W
3422	4822 051 20473	47KΩ 5% 0,1W	3703	4822 051 20334	330KΩ 5% 0,1W
3423	4822 051 20008	0,1W JUMP	3704	4822 051 20822	8K2 5% 0,1W
3424	4822 051 20008	0,1W JUMP	3705	4822 117 10965	18KΩ 5% 0,1W
3430	4822 051 20109	10Ω 5% 0,1W	3709	4822 051 20334	330KΩ 5% 0,1W
3433	4822 051 20472	4K7 5% 0,1W	3710	4822 051 20822	8K2 5% 0,1W
3435	4822 051 20104	100KΩ 5% 0,1W	3711	4822 051 20122	1K2 5% 0,1W
3436	4822 051 20333	33KΩ 5% 0,1W	3712	4822 051 20104	100KΩ 5% 0,1W
3442	4822 051 20224	220KΩ 5% 0,1W	3713	4822 051 20104	100KΩ 5% 0,1W
3444	4822 051 20102	1KΩ 5% 0,1W	3714	4822 051 20104	100KΩ 5% 0,1W
3445	4822 051 20224	220KΩ 5% 0,1W	3715	4822 051 20104	100KΩ 5% 0,1W
3447	4822 051 20224	220KΩ 5% 0,1W	3716	4822 051 20109	10Ω 5% 0,1W
3451	4822 051 20224	220KΩ 5% 0,1W	3717	4822 117 10965	18KΩ 5% 0,1W
3454	4822 051 20224	220KΩ 5% 0,1W	3739	4822 051 20008	JUMP MAX 0R05 0805
3458	4822 051 20104	100KΩ 5% 0,1W	3742	4822 051 20008	JUMP MAX 0R05 0805
3468	4822 051 20008	0,1W JUMP	3743	4822 051 20102	1KΩ 5% 0,1W
3470	4822 051 20104	100KΩ 5% 0,1W	3744	4822 051 20228	2R2 5% 0,1W
3471	4822 051 20224	220KΩ 5% 0,1W	3745	4822 051 20561	560Ω 5% 0,1W
3472	4822 051 20102	1KΩ 5% 0,1W	3747	4822 051 20473	47KΩ 5% 0,1W
3473	4822 051 20473	47KΩ 5% 0,1W	3748	4822 051 20473	47KΩ 5% 0,1W
3474	4822 051 20109	10Ω 5% 0,1W	3751	4822 051 20008	JUMP MAX 0R05 0805
3475	4822 051 20109	10Ω 5% 0,1W	3754	4822 051 20104	100KΩ 5% 0,1W
3485	4822 051 20224	220KΩ 5% 0,1W	3755	4822 117 11449	2K2 5% 0,1W
3486	4822 051 20273	27KΩ 5% 0,1W	3756	4822 051 20008	JUMP MAX 0R05 0805

					
3762	4822 051 20473	47KΩ 5% 0,1W	5400	4822 157 70935	COIL 97UH 10A /35S
3763	4822 051 20008	JUMP MAX 0R05 0805	5401	4822 157 11206	LAL04 A 0U22 20%
3764	4822 051 20473	47KΩ 5% 0,1W	5501	4822 157 71206	EMI 100MHZ 600R
3770	4822 051 20102	1KΩ 5% 0,1W	5503	4822 157 71206	EMI 100MHZ 600R
3771	4822 051 20102	1KΩ 5% 0,1W	5650	4822 242 10709	RES CER 6MHZ
3772	4822 051 20102	1KΩ 5% 0,1W	5651	4822 157 71206	EMI 100MHZ 600R
3773	4822 051 20228	2R2 5% 0,1W			
3774	4822 051 20228	2R2 5% 0,1W	6200	4822 130 10654	BAT254
3775	4822 051 20228	2R2 5% 0,1W	6300	4822 130 83757	BAS216
3805	4822 117 10833	10KΩ 5% 0,1W	6401	4822 130 10488	S3G
			6406	4822 130 10656	UDZ
3806	4822 051 20332	3K3 5% 0,1W	6407	4822 130 10655	1SR154-400
3807	4822 051 20008	JUMP. MAX 0R05 0805			
3808	4822 051 20473	47KΩ 5% 0,1W	6410	4822 130 83757	BAS216
3809	4822 051 20473	47KΩ 5% 0,1W	6412	4822 130 10655	1SR154-400
3810	4822 051 20008	JUMP. MAX 0R05 0805	6413	4822 130 10654	BAT254
			6414	4822 130 83757	BAS216
3812	4822 051 20102	1KΩ 5% 0,1W	6415	4822 130 83757	BAS216
3813	4822 117 10833	10KΩ 5% 0,1W			
3814	4822 051 20473	47KΩ 5% 0,1W	6421	4822 130 83757	BAS216
3815	4822 051 20473	47KΩ 5% 0,1W	6422	4822 130 83757	BAS216
3816	4822 051 20473	47KΩ 5% 0,1W	6424	4822 130 83757	BAS216
			6425	4822 130 83757	BAS216
3817	4822 051 20473	47KΩ 5% 0,1W	6426	4822 130 83757	BAS216
3818	4822 051 20473	47KΩ 5% 0,1W			
3819	4822 051 20223	22KΩ 5% 0,1W	6427	4822 130 83757	BAS216
3820	4822 051 20008	JUMP. MAX 0R05 0805	6432	4822 130 83757	BAS216
3822	4822 051 20104	100KΩ 5% 0,1W	6653	4822 130 10657	DIO REG SM PTZ 5.6A
			6654	4822 130 10657	DIO REG SM PTZ 5.6A
3828	4822 051 20101	100Ω 5% 0,1W	6740	4822 130 10655	1SR154-400
3829	4822 051 20104	100KΩ 5% 0,1W			
3836	4822 051 20008	JUMP. MAX 0R05 0805	6800	4822 130 10658	UDZ
3844	4822 051 20473	47KΩ 5% 0,1W	6850	4822 130 83757	BAS216
3845	4822 051 20473	47KΩ 5% 0,1W	6851	4822 130 10185	UDZ
			6852	4822 130 10185	UDZ
3850	4822 051 20008	JUMP. MAX 0R05 0805			
3852	4822 117 10833	10KΩ 5% 0,1W	7172	4822 130 60511	BC847B
3854	4822 051 20008	JUMP. MAX 0R05 0805	7200	4822 130 60511	BC847B
3855	4822 051 20104	100KΩ 5% 0,1W	7201	4822 209 15479	SAA7701H
3856	4822 051 20223	22KΩ 5% 0,1W	7202	4822 209 33985	IC SM TDA8579T/N1
			7302	4822 209 33629	IC TDA7375
3857	4822 051 20333	33KΩ 5% 0,1W			
3859	4822 051 20331	330Ω 5% 0,1W	7303	4822 209 33629	IC TDA7375
3860	4822 051 20101	100Ω 5% 0,1W	7304	4822 130 60511	BC847B
3861	4822 051 20104	100KΩ 5% 0,1W	7306	5322 130 60508	BC857B
3862	4822 051 20331	330Ω 5% 0,1W	7400	5322 209 14482	HEF4069UBT
			7401	4822 209 14814	L4949EP
3863	4822 051 20101	100Ω 5% 0,1W			
3864	4822 051 20104	100KΩ 5% 0,1W	7402	5322 209 14877	HEF4528BT
3865	4822 051 20101	100Ω 5% 0,1W	7404	4822 209 14815	IC VN06
3866	4822 051 20101	100Ω 5% 0,1W	7405	4822 209 90566	IC L4885CV
3871	4822 051 20101	100Ω 5% 0,1W	7406	4822 209 90567	IC L7805ABV
			7407	5322 130 60508	BC857B
3872	4822 051 20101	100Ω 5% 0,1W			
3882	4822 051 10008	JUMP. MAX 0R05 1206	7408	4822 130 60511	BC847B
3886	4822 051 20008	JUMP. MAX 0R05 0805	7410	4822 130 60511	BC847B
			7418	4822 209 33162	MC4558IDT
			7505	5322 130 60508	BC857B
5172	4822 157 10975	EL0405 S 120U 10%	7506	5322 209 11102	HEF4052BT
5173	4822 157 71184	EL0405 S 10U 10%			
5174	4822 157 71206	EMI 100MHZ 600R	7513	4822 209 15535	P89CE560-RC465/35/35S
5200	4822 157 71206	EMI 100MHZ 600R	7515	4822 209 15689	EEPROM SEC /35
5201	4822 242 10565	RES XTL 36MHZ86	7515	4822 209 15691	EEPROM SEC /35S
			7650	4822 209 32743	MSM6307GS-VK
5202	4822 157 71184	EL0405 S 10U 10%	7701	4822 209 15349	TEA0676T
5203	4822 157 10976	EL0405 S 68U 10%			
5204	4822 157 71206	EMI 100MHZ 600R	7740	4822 130 44283	BC636
5205	4822 157 10977	IND 4.7UH 10% 0805			
5400	4822 157 70839	COIL 160UH 5A /35			

 					
7741	4822 130 60511	BC847B	3926	4822 117 11449	2K2 5% 0,1W
7743	4822 130 42615	BC817-40	3927	4822 117 10833	10KΩ 5% 0,1W
7745	4822 130 60511	BC847B	3928	4822 051 20101	100Ω 5% 0,1W
7800	4822 130 42132	BC807	3929	4822 051 20101	100 5% 0,1W
7801	4822 130 60511	BC847B	3930	4822 117 10833	10KΩ 5% 0,1W
7802	4822 130 10659	TRA POW 2SD2039	3935	4822 117 11449	2K2 5% 0,1W
7803	4822 130 60511	BC847B	3936	4822 117 11449	2K2 5% 0,1W
7804	5322 130 60508	BC857B	3937	4822 117 11449	2K2 5% 0,1W
7805	5322 130 60508	BC857B	3938	4822 117 11449	2K2 5% 0,1W
7806	4822 130 60511	BC847B	3939	4822 117 11449	2K2 5% 0,1W
7840	5322 130 60508	BC857B	3940	4822 051 20472	4K7 5% 0,1W
7850	4822 130 60511	BC847B	3941	4822 051 20332	3K3 5% 0,1W
7880	4822 209 33238	HEF4077BT	3942	4822 051 20332	3K3 5% 0,1W
FRONT ELECTRICAL PARTS			3943	4822 051 20332	3K3 5% 0,1W
Miscellaneous			3944	4822 051 20332	3K3 5% 0,1W
1902	4822 134 10085	LAMP 10V 60MA	3945	4822 051 20332	3K3 5% 0,1W
1903	4822 134 10085	LAMP 10V 60MA	3946	4822 117 11449	2K2 5% 0,1W
1904	4822 134 10085	LAMP 10V 60MA	3947	4822 051 20008	JUMP. MAX 0R05 0805
1932	4822 135 00119	LCD ASSY	3954	4822 051 20473	47K 5% 0,1W
1981	4822 101 30873	ROT ENCODER 15P	3955	4822 051 20331	330Ω 5% 0,1W
					
2901	4822 126 13196	100nF 10% 25V	6901	4822 130 10912	LED SM LPT670-H
2902	4822 126 13196	100nF 10% 25V	6902	4822 130 10912	LED SM LPT670-H
2903	4822 126 13196	100nF 10% 25V	6903	4822 130 10912	LED SM LPT670-H
2904	4822 126 13196	100nF 10% 25V	6904	4822 130 10912	LED SM LPT670-H
2993	4822 126 13343	47nF 10% 25V	6905	4822 130 10912	LED SM LPT670-H
2994	4822 126 13343	47nF 10% 25V	6906	4822 130 10912	LED SM LPT670-H
			6907	4822 130 10912	LED SM LPT670-H
3901	4822 051 20272	2K7 5% 0,1W	6908	4822 130 10912	LED SM LPT670-H
3902	4822 051 20272	2K7 5% 0,1W	6909	4822 130 10912	LED SM LPT670-H
3903	4822 051 20272	2K7 5% 0,1W	6910	4822 130 10912	LED SM LPT670-H
3904	4822 051 20272	2K7 5% 0,1W	6911	4822 130 10912	LED SM LPT670-H
3905	4822 117 11449	2K2 5% 0,1W	6912	4822 130 10912	LED SM LPT670-H
3906	4822 117 11449	2K2 5% 0,1W	6913	4822 130 10912	LED SM LPT670-H
3907	4822 117 11449	2K2 5% 0,1W	6917	4822 130 10848	LED LSPT670
3908	4822 117 11449	2K2 5% 0,1W			
3909	4822 117 11449	2K2 5% 0,1W	7901	5322 209 11578	IC PCF8574T
3910	4822 117 11449	2K2 5% 0,1W	7902	4822 209 15134	IC PCF8576CT
3911	4822 117 11449	2K2 5% 0,1W	7909	4822 130 60511	BC847B
3912	4822 117 11449	2K2 5% 0,1W			
3913	4822 117 11449	2K2 5% 0,1W			
3914	4822 051 20272	2K7 5% 0,1W			
3915	4822 051 20272	2K7 5% 0,1W			
3916	4822 051 20272	2K7 5% 0,1W			
3917	4822 051 20272	2K7 5% 0,1W			
3918	4822 051 20272	2K7 5% 0,1W			
3919	4822 117 11449	2K2 5% 0,1W			
3920	4822 117 11449	2K2 5% 0,1W			
3921	4822 117 11449	2K2 5% 0,1W			
3922	4822 051 20272	2K7 5% 0,1W			
3923	4822 051 20272	2K7 5% 0,1W			
3924	4822 051 20332	3K3 5% 0,1W			
3925	4822 051 20184	180K 5% 0,1W			

Service
Service
Service

Supplement

ERSATZTEILE
für Philips Car Systems
erhalten Sie bei:

KiVi Service GmbH
Windmühlenstr. 41 · 31178 Giesen/Emmerke
Tel.: 0 51 21 / 6 00 20 · Fax 0 51 21 / 6 00 2 54



PHIL -05363

Service Manual

12 V 

This supplement should be used together with the LCA 2.4 Service Manual with service code:
4822 725 23523. 4728

This supplement contains: technical data, general information, connector and switch overviews, exploded views and partslists for both the LCA 5.2 and LCA 5.4 tape decks.
For all parts not mentioned here, refer to the LCA 2.4 Service Manual.

TECHNICAL DATA

Operating voltage	: 9 - 16V (nom. 13.2V)
Tape speed	: 4.76cm/sec \pm 0.5%
Wow & Flutter	: \leq 0.35% RMS (+10 - +45°C)
Crosstalk (track 2-3)	: < -40dB
Fast wind time	: \leq 115sec (C-60)
Number of tracks	: 2x2
Channel separation (Tracks 1-2/3-4)	: > 35dB



PHILIPS

GENERAL

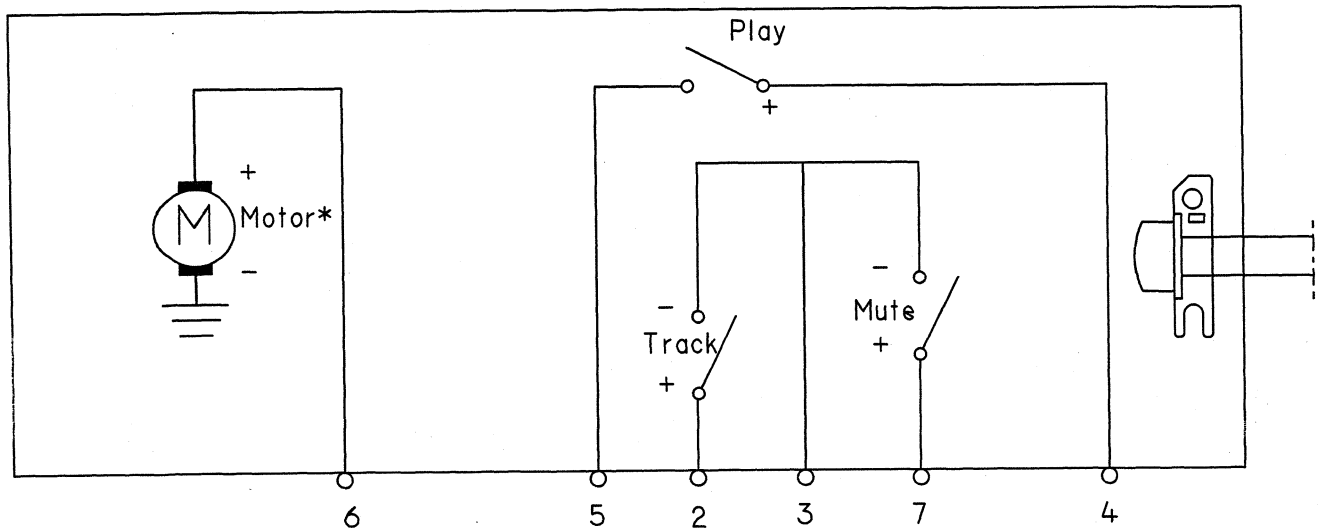
The differences between the LCA 2.4 and **LCA 5.2** are:

- capstan motor at left side instead of rear
- no "Key-Off" standby
- no Automatic Music sensor system
- no Metal / Ferro tape selector switch
- interface connector
- changed position of wind buttons

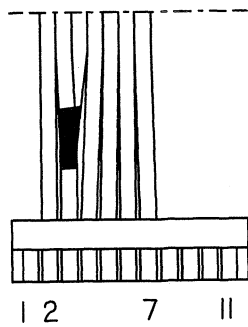
The differences between the LCA 2.4 and **LCA 5.4** are:

- capstan motor at left side instead of rear
- interface connector
- changed position of wind buttons

LCA 5.2 CONNECTOR AND SWITCH OVERVIEW

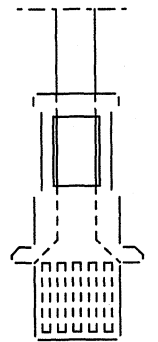


*Remark: Motor - internally connected to chassis!



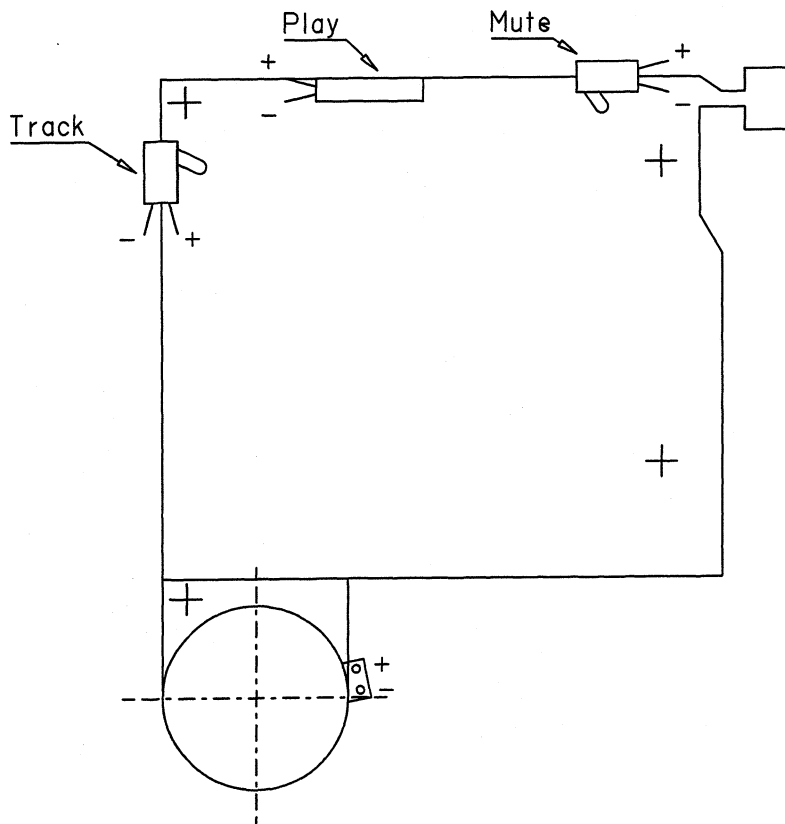
← round conductor flat cable

← connector



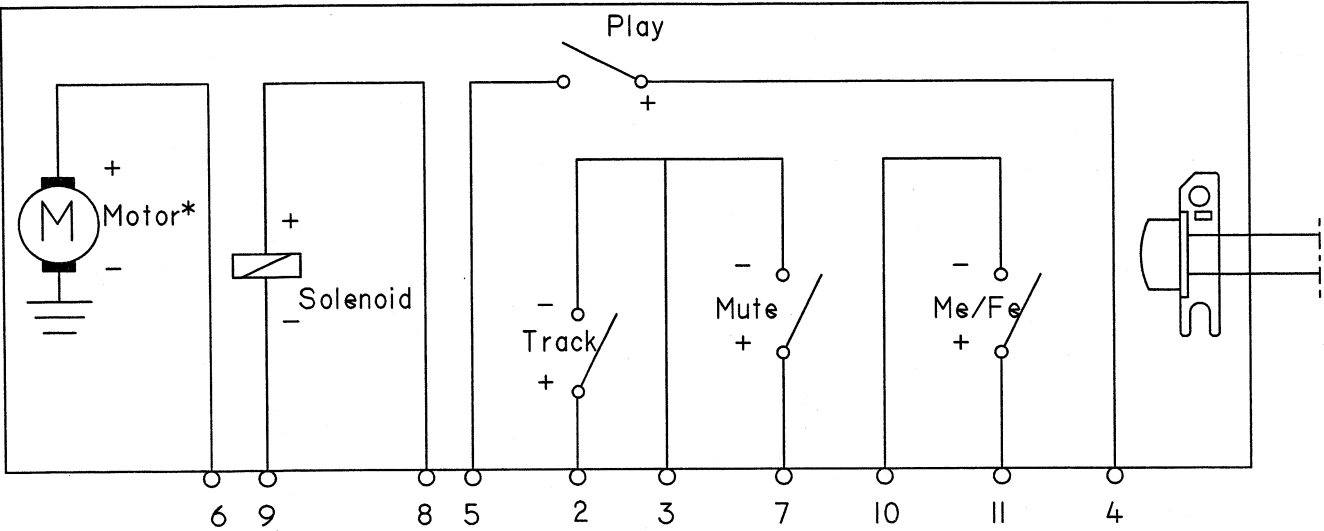
4321COM

COM common
1 left forward
2 right forward
3 right reverse
4 left reverse

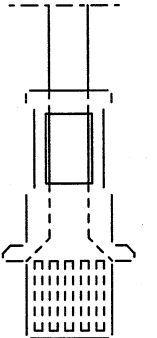
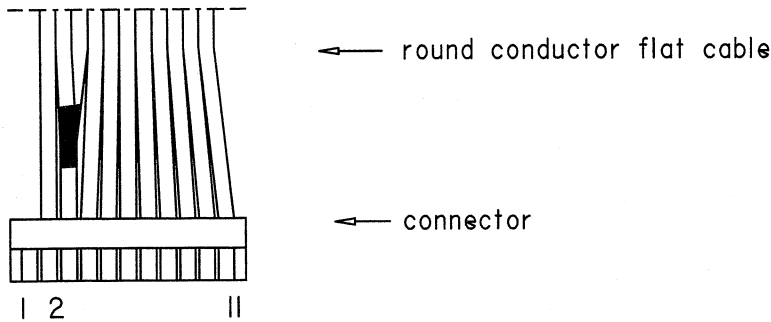


	colour	function
1	--	---
2	black	+Track Sw
3	red brown	COMMON
4	orange	+14V
5	yellow	Play Sw
6	green	Motor
7	blue	Mute SW
8	--	---
9	--	---
10	--	---
11	--	---

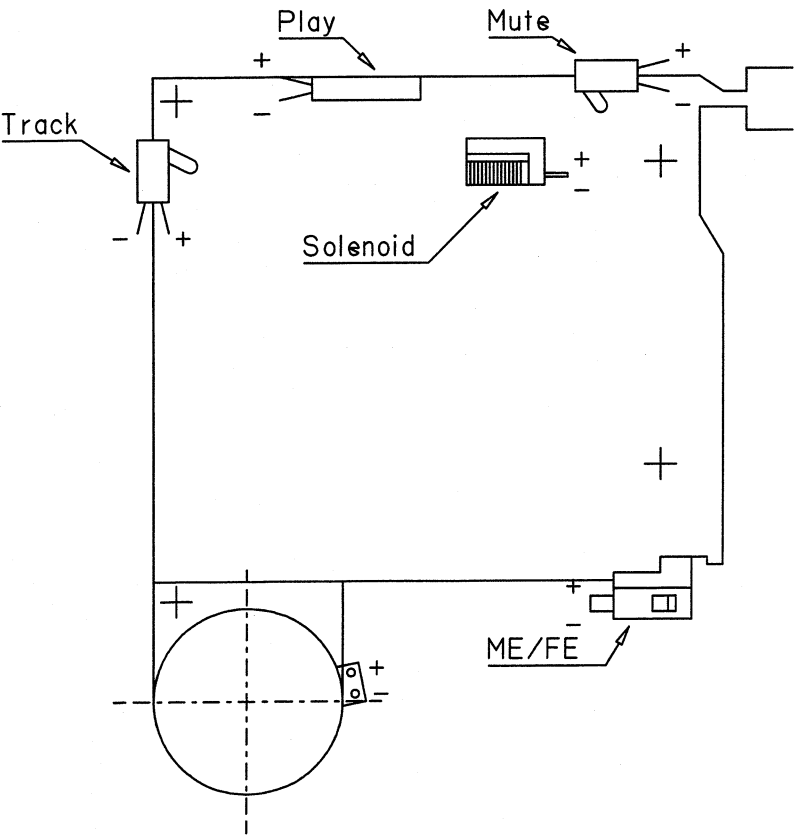
LCA 5.4 CONNECTOR AND SWITCH OVERVIEW



*Remark: Motor – internally connected to chassis!



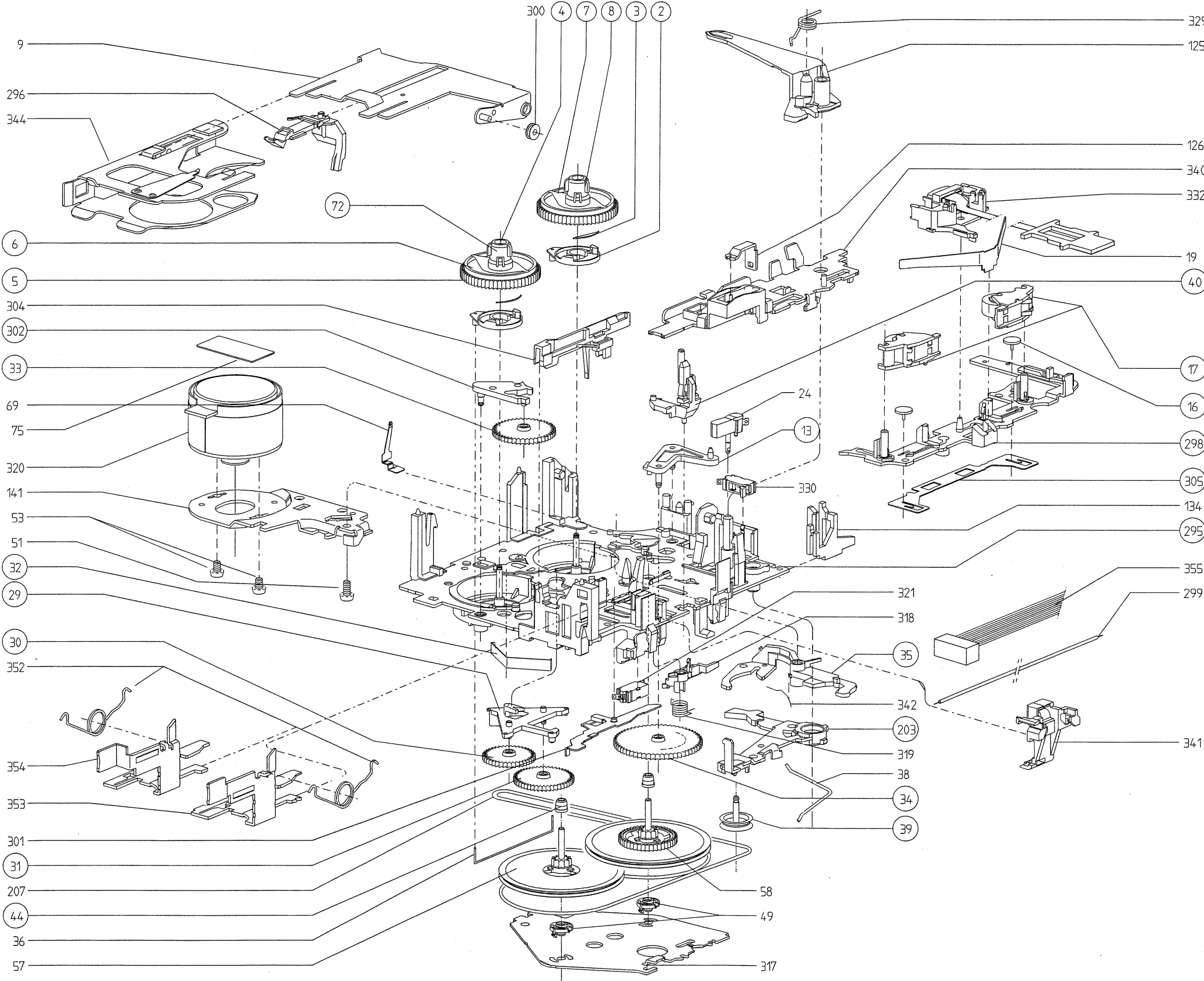
4321COM



COM
1 left forward
2 right forward
3 right reverse
4 left reverse

	colour	function
1	--	---
2	black	+Track Sw
3	red brown	COMMON
4	orange	+14V
5	yellow	Play Sw
6	green	Motor
7	blue	Mute SW
8	violet	+ Solenoid
9	grey	- Solenoid
10	white	- Me/Fe
11	black	+ Me/Fe

LCA 5.2 EXPLODED VIEW



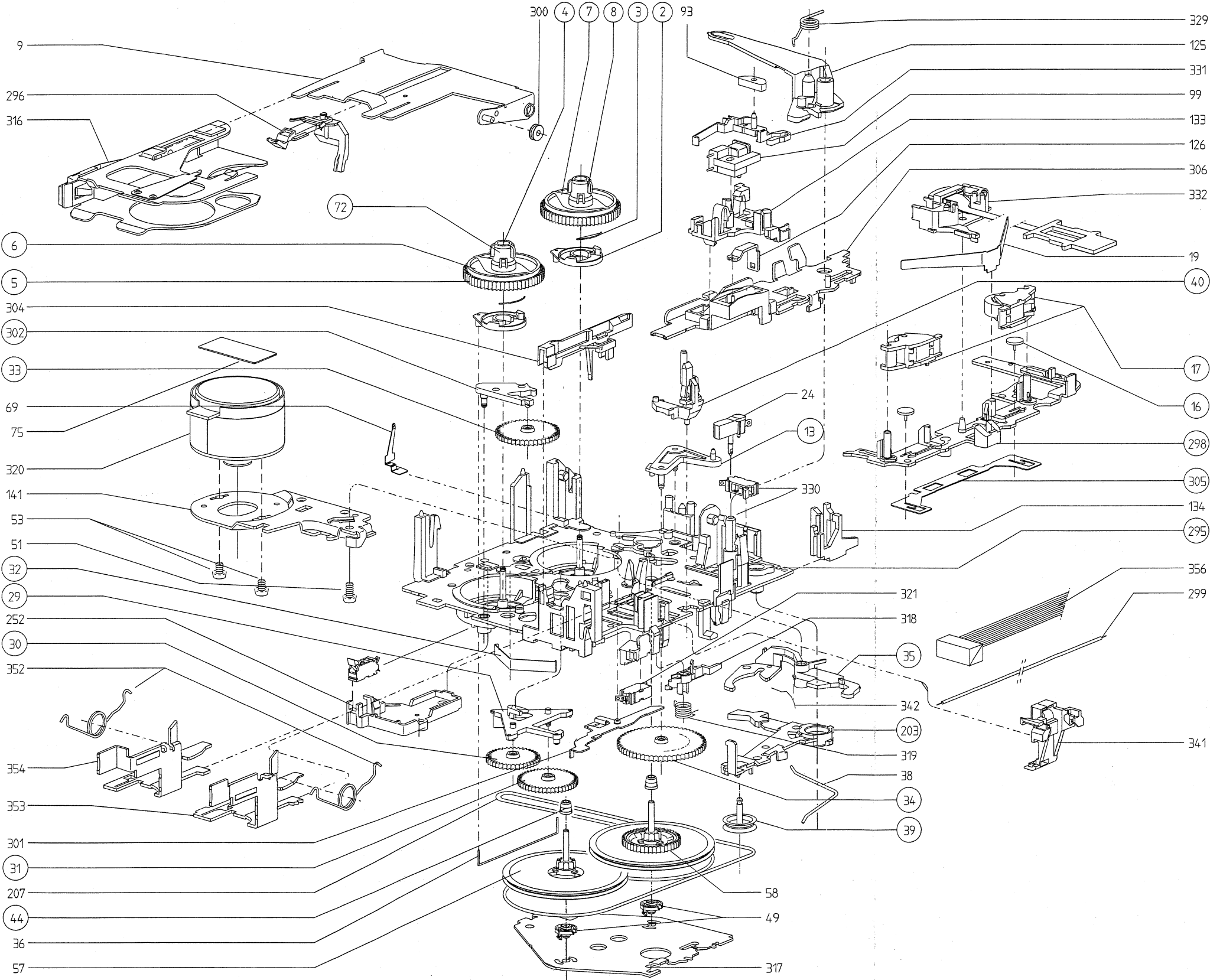
PARTS LIST LCA5.2

2/3	4822 466 70527	Disc assy
4/5/6/7/8	4822 466 70526	Coupling felt assy white
4/5/6/7/72	4822 528 10898	Coupling felt assy black
9	4822 466 81479	Cassette lift
16	4822 528 80983	Fixation
17	4822 403 40157	Pressure roller assy
24	4822 276 13081	Play switch
29/30/31	4822 522 20327	Gear assy
32	4822 492 71468	Leaf spring
35	4822 403 52031	Gear arm
36	4822 492 90076	Lever
39	4822 528 81144	Pulley
40	4822 403 10225	Holder
44	4822 520 30406	Bush bearing
49	4822 520 30407	Excentric
53	4822 502 12548	Special screw
57	4822 528 80985	Flywheel assy
58	4822 528 81517	Flywheel assy
125	4822 403 71287	Lever eject
126	4822 403 71286	Lever blocking
203	4822 404 21169	Arm
207	4822 358 31136	Driving belt
296	4822 256 92317	Holder cassette
298	4822 403 71282	Head support bracket
300	4822 528 10942	Lift roller
301	4822 466 10758	Plate logic
304	4822 462 30632	Band conductor
305	4822 466 10759	Control plate
318	4822 403 71284	Latch
319	4822 492 42774	Spring latch
320	4822 361 21764	Motor MSI-5 CCW
321	4822 276 13617	Switch mute
330	4822 276 13616	Switch track
332	4822 249 30227	Magnetic head
340	4822 402 10106	Push button rod
344	4822 256 10151	Cassette carrier assy
	4822 691 10466	Deck LCA5.2 complete

Lubrication greases/oils

4822 390 10107	Isoflex PDP 65, 30ML
4822 390 10133	Grease 585K
4822 390 10134	Grease L30TF
4822 390 20116	Grease 004, 100G CAN
4822 390 20128	Isoflex TOPAS L 30

LCA 5.4 EXPLODED VIEW



PARTS LIST LCA5.4

2/3	4822 466 70527	Disc assy
4/5/6/7/8	4822 466 70526	Coupling felt assy white
4/5/6/7/72	4822 528 10898	Coupling felt assy black
9	4822 466 81479	Cassette lift
16	4822 528 80983	Fixation
17	4822 403 40157	Pressure roller assy
24	4822 276 13081	Play switch
29/30/31	4822 522 20327	Gear assy
32	4822 492 71468	Leaf spring
35	4822 403 52031	Gear arm
36	4822 492 90076	Lever
39	4822 528 81144	Pulley
40	4822 403 10225	Holder
44	4822 520 30406	Bush bearing
49	4822 520 30407	Excentric
53	4822 502 12548	Special screw
57	4822 528 80985	Flywheel assy
58	4822 528 81517	Flywheel assy
93	4822 281 60165	Anchor plate
99	4822 281 50113	Solenoid magnet
125	4822 403 71287	Lever eject
126	4822 403 71286	Lever blocking
133	4822 466 83076	Plate solenoid II
203	4822 404 21169	Arm
207	4822 358 31136	Driving belt
296	4822 256 92317	Holder cassette
298	4822 403 71282	Head support bracket
300	4822 528 10942	Lift roller
301	4822 466 10758	Plate logic
304	4822 462 30632	Band conductor
305	4822 466 10759	Control plate
306	4822 403 71283	Push button rod
318	4822 403 71284	Latch
319	4822 492 42774	Spring latch
320	4822 361 21764	Motor MSI-5 CCW
321	4822 276 13617	Switch mute
330	4822 276 13616	Switch track/ME-FE
331	4822 403 71285	Lever solenoid
332	4822 249 30227	Magnetic head
344	4822 256 10151	Cassette carrier assy
	4822 691 10467	Deck LCA5.4 complete

Lubrication greases/oils

4822 390 10107	Isoflex PDP 65, 30ML
4822 390 10133	Grease 585K
4822 390 10134	Grease L30TF
4822 390 20116	Grease 004, 100G CAN
4822 390 20128	Isoflex TOPAS L 30

Service
Service
Service



PHIL-04728



Service Manual

12 V

TECHNICAL DATA

Operating voltage	: 9 - 16V (nom. 13.2V)
Tape speed	: 4.76cm/sec \pm 0.5%
Wow & flutter	: \leq 0.35% RMS (+10 - +45°C)
Crosstalk (track 2-3)	: $<$ -40dB
Fast wind time	: \leq 115secs (C-60)
Number of tracks	: 2x2
Channel separation (Tracks 1-2/3-4)	: $>$ 35dB



PHILIPS

GENERAL

The LCA2.4 has the following features:

- Dolby
- "Key-Off" standby
- Automatic Music sensor System
- Metal / Ferro tape selector switch

MAINTENANCE

The cassette mechanism requires periodic cleaning, as well as periodic lubrication of the principal points.

1. Cleaning with alcohol or spirit

- Playback head (pos.332).
- Pressure rollers & capstans (pos.17, 57 and 58).
- Belt (pos.207) & pulley (pos.39).

To clean head, pressure roller and capstan, it is also possible to use drop-in cassette SBC114 (4822 389 20035).

2. Lubrication

Refer to the 'Lubrication Overview' on page 5.

ADJUSTMENTS AND CHECKS

Equipment required:

- Universal test cassette SBC419 (4822 397 30069)
- Universal test cassette SBC420 (4822 397 30071)
- Friction test cassette 811/CTM (4822 395 30054)
- Spring scale 50-500g (4822 395 80028)
- Puller for clutch (4822 395 60039)
- Wow & flutter meter
- AC millivoltmeters
- Spring scale 50-500 g

1. Pressure roller pressure

The pressure on the capstans should be 210 - 370 grammes (2.1 - 3.7N).

This pressure is measured as follows (NOR and REV):

- Select Play mode.
- Push the pressure roller back at the shown point by means of the spring scale.
- At the point where pressure roller and capstan just disengage the spring scale should be read.
- If the pressure is incorrect, replace spring 19.

2. Friction clutch (Reel assy)

- Insert friction test cassette 811/CTM (NOR and REV).
- Play take-up torque should be 35 - 75g/cm.
- Fast wind torque should be 40 - 150g/cm.
- If the torque is not correct, replace reel assy.

3. Wow & flutter/tape speed (Fig. G)

This check is carried out on a complete car radio; proceed as follows:

- Connect the wow & flutter meter to the LS outputs.
- Insert test cassette SBC419 (or SBC420) and play the 3150Hz signal.
- The wow & flutter value should be $\leq 0.35\%$.
- Tape speed should be 4.76cm/sec. $\pm 0.5\%$.
- The tape speed can be adjusted with screw "S".

In case of an excessive wow & flutter value, check following parts for correct functioning:

- motor 320
- pressure (pinch) rollers 17
- belt 207
- friction clutches (reel assy's)
- flywheels 57 and 58
- pulley 39

4. Azimuth (Figs. G, H)

This check is carried out on a complete car radio; proceed as follows:

- Apply a 4 Ω load to both loudspeaker outputs.
- Connect an AC millivoltmeter across both loudspeaker outputs.
- Play the 10kHz signal of test cassette SBC419 or SBC420.
- Adjust screw 'A' for the average of the max. output voltages.
- The maximum allowed difference between both channels is 4 dB.
- Switch over to 'reverse play'.
- If the value measured differs from the previously measured value, bearing 49 in the front flywheel ("reverse") should be displaced.

5. Flywheels 57, 58

Refer to Fig. J.

BELT 207, FLY WHEELS 57 & 58, COG WHEEL ASSY 12,33

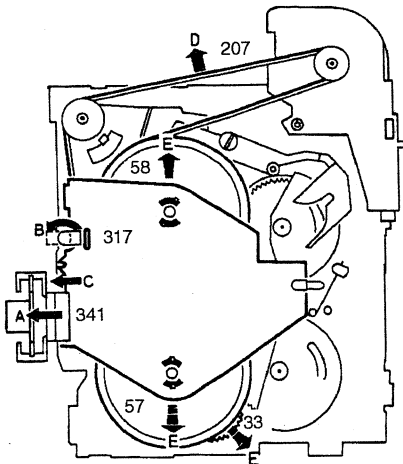


Fig. A

PRESSURE ROLLER 17, HEAD 332

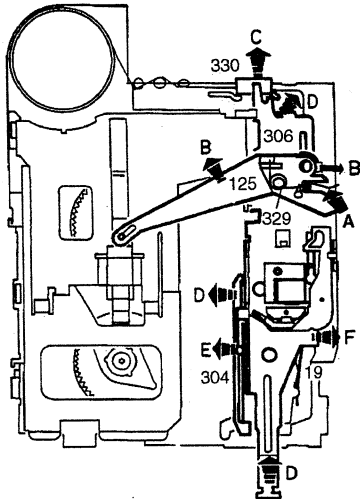


Fig. B

HEAD BRACKET 298

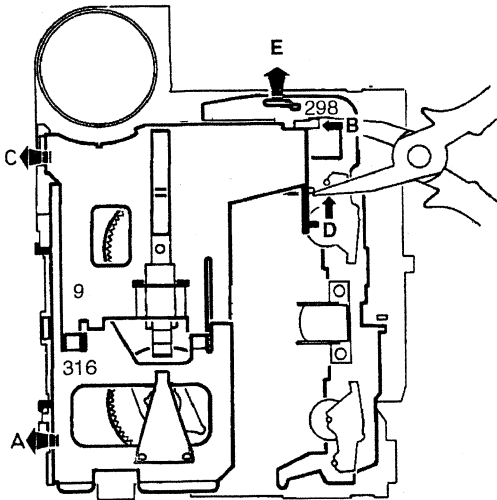


Fig. C

CLUTCH 6

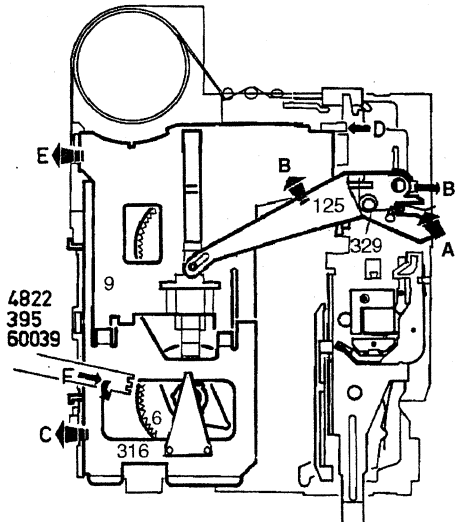


Fig. D

COG WHEELS 30, 31, 34

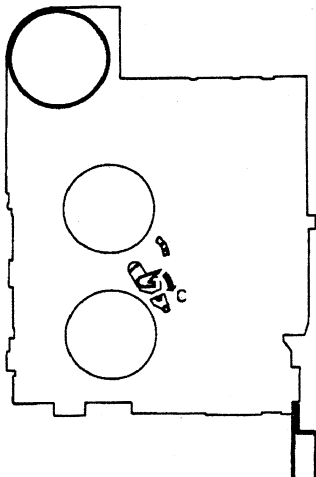


Fig. E

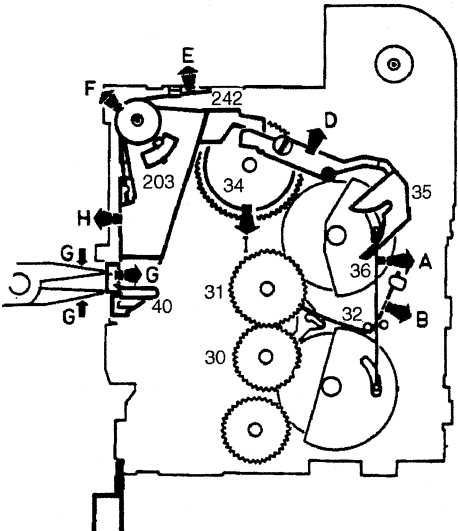


Fig. F

DISASSEMBLY INSTRUCTIONS

Notes:

In a few places parts are locked by synthetic bosses.
To be able to dismantle these parts, the bosses have to be bent, displaced etc.

Gearwheels 33 and 34 and pressure rollers 17 are attached to the spindles by means of a snap connection. These parts can be disassembled carefully with a screwdriver.

If gearwheel 33 (or 34) has to be replaced, the corresponding bracket 12 (or 13) should ALSO be replaced.

Belt 207, Fly wheels 57 & 58, Cog wheel assy 12 & 33
See figure A.

Pressure roller 17, Head assy 332
See figure B.

Head bracket 298
See figure C.

Clutch 6
See figure D.

Cog wheels 30, 31, 34
See figure E.

Reel base assy
See figure F.

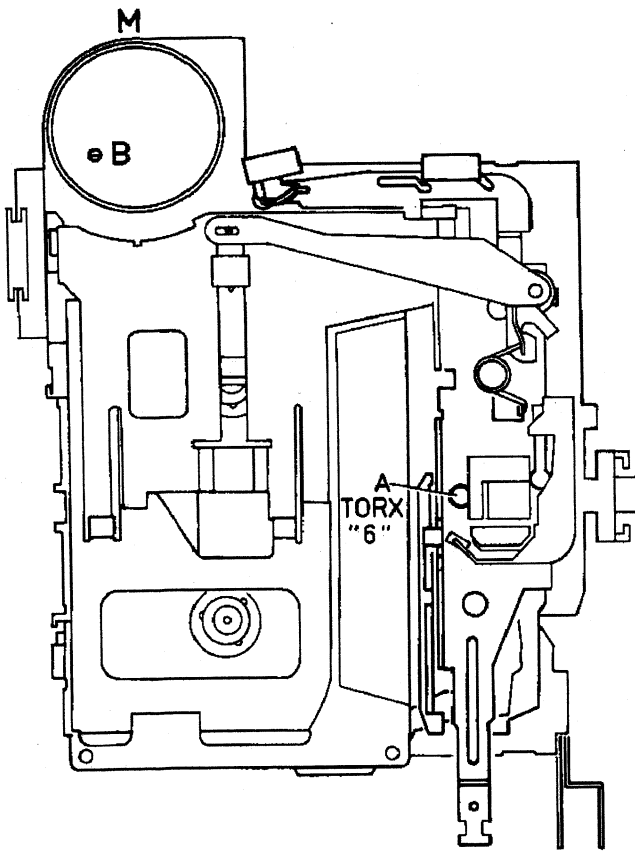


Fig. G

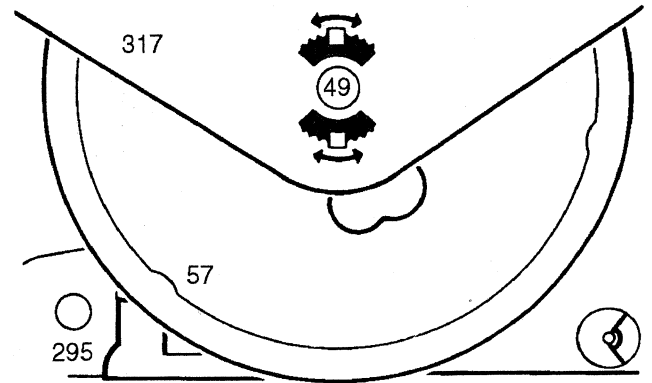


Fig. H

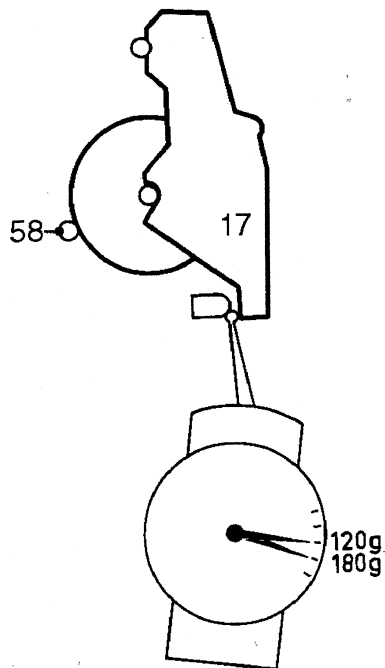


Fig. I

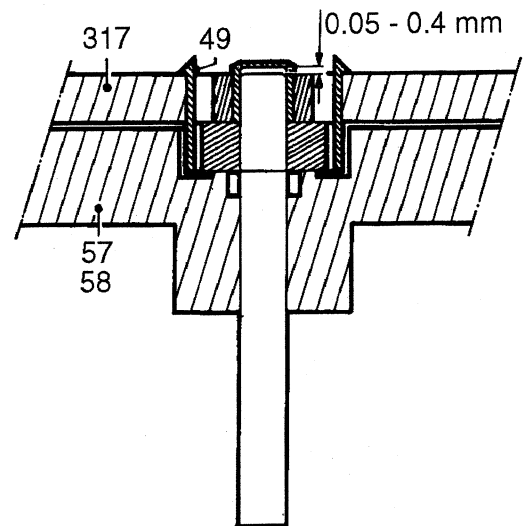


Fig. J

CONNECTIONS

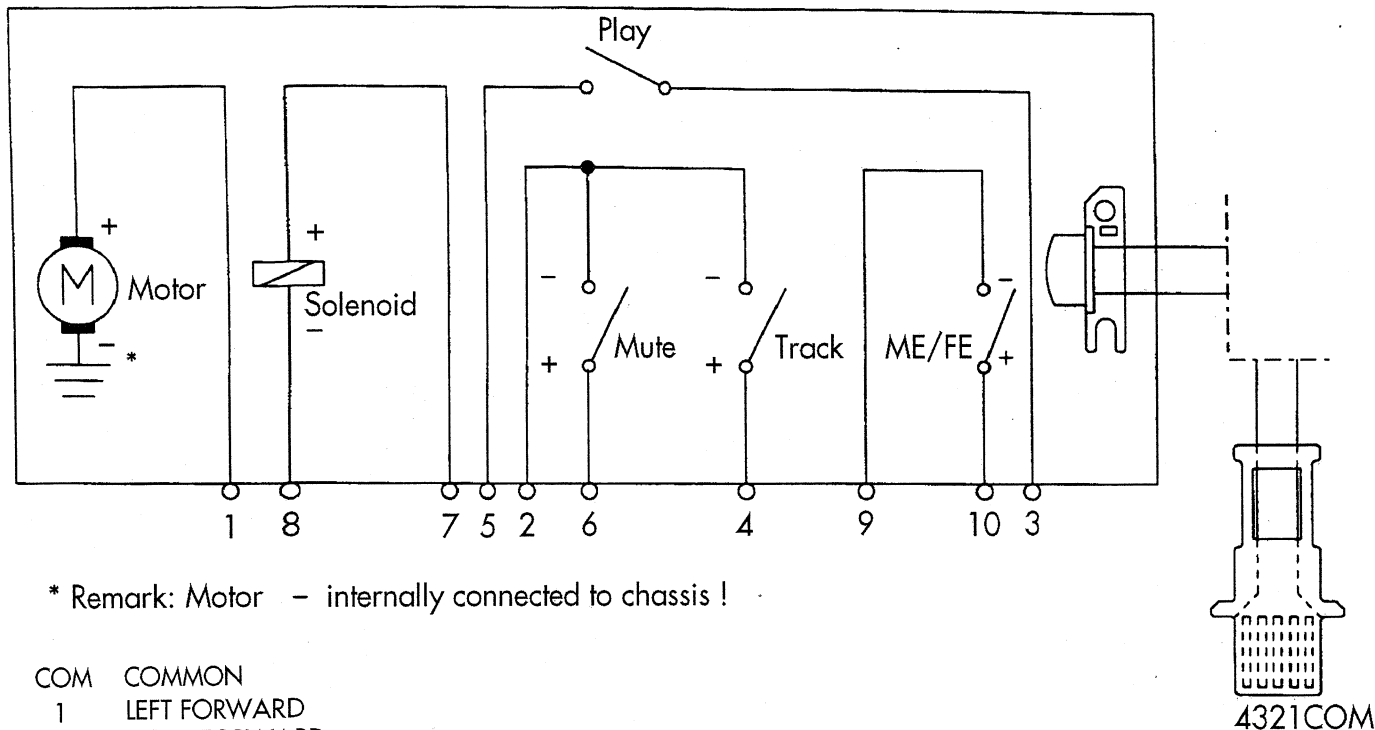


Fig. K

Fig. N

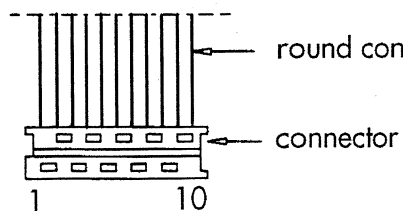


Fig. L

wire	colour	function
1	red	Motor+
2	brown	COMMON
3	orange	+14V
4	yellow	Track SW
5	green	Play SW
6	blue	Mute SW
7	violet	+ Solenoid
8	grey	- Solenoid
9	white	- ME/FE
10	black	+ ME/FE

Fig. O

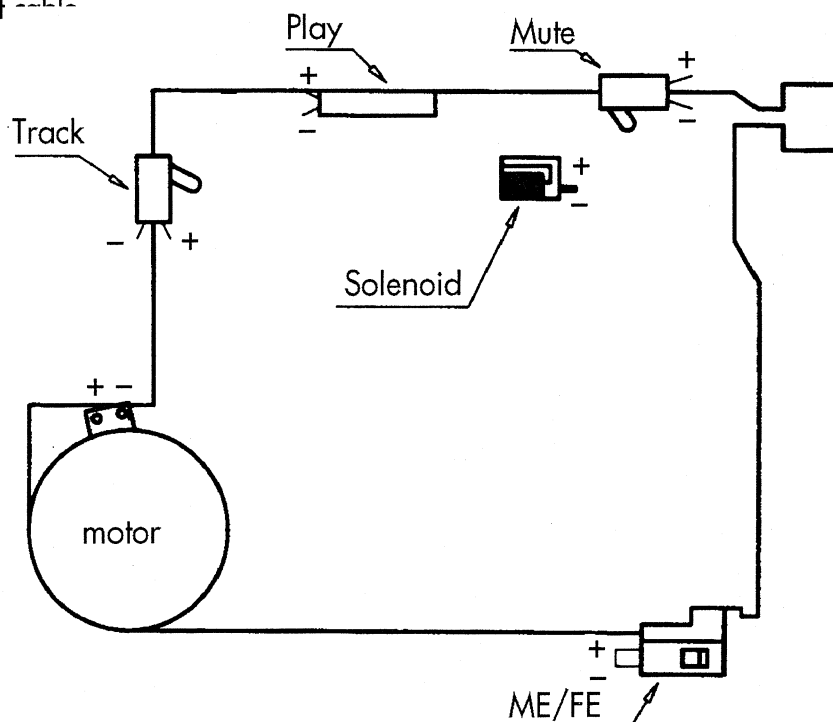
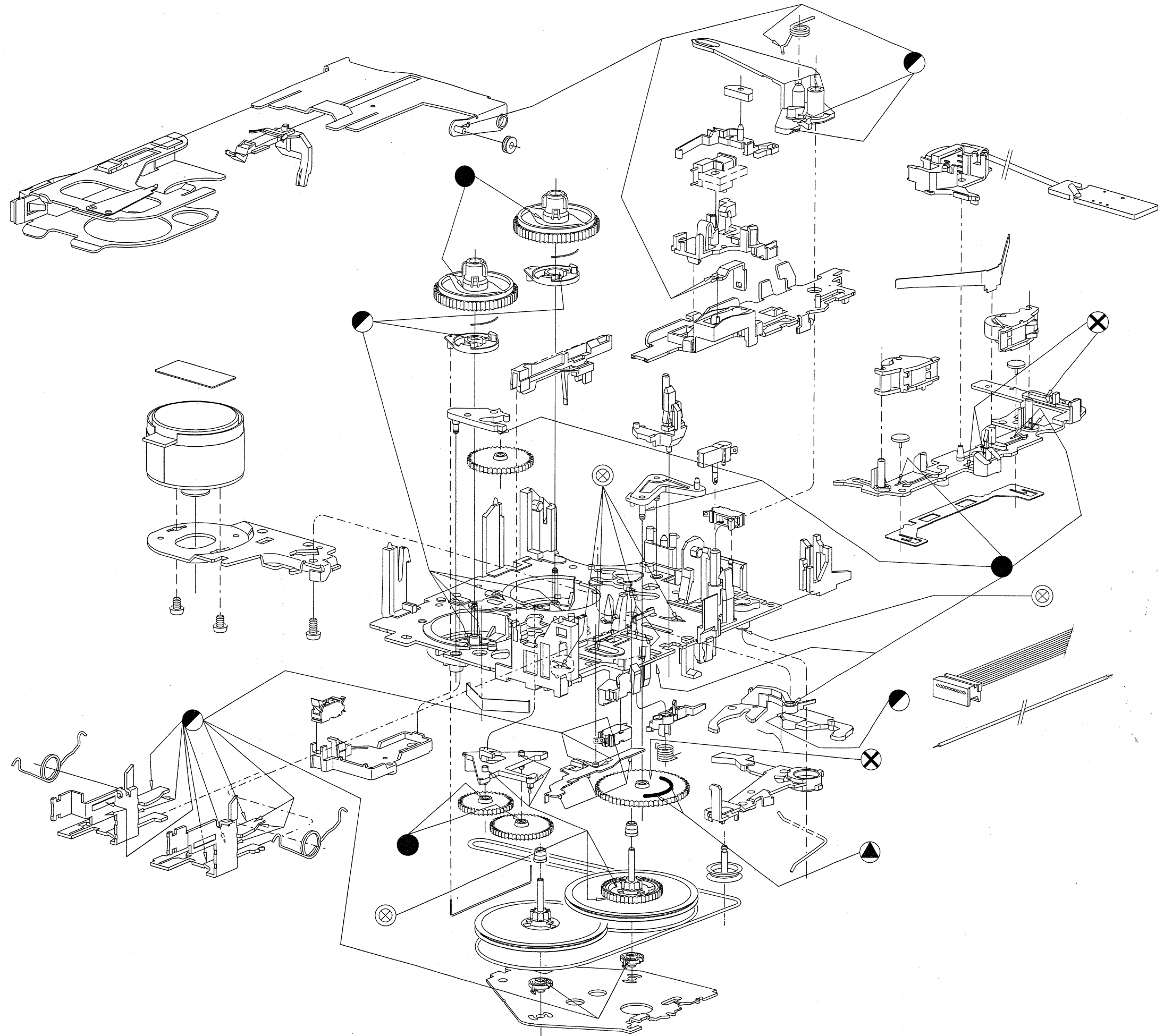


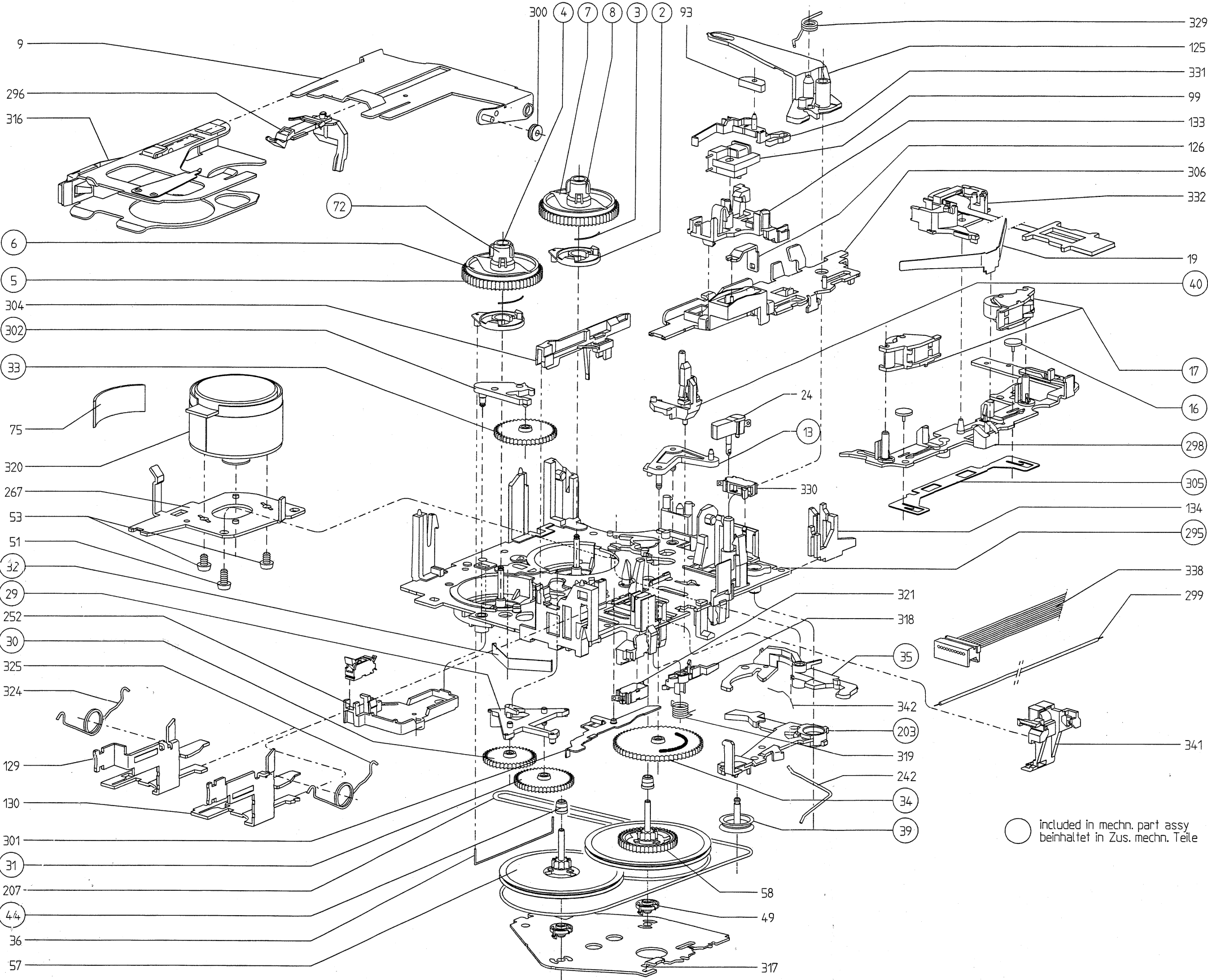
Fig. M

LUBRICATION OVERVIEW



- Contact Oel
PDP 65
- ⊗ Grease
Topas L30
- ◐ Grease
SM 30 TF
- ⊗ Grease
Gleitmo 585 K
- ◐ Grease 4

EXPLODED VIEW



PARTS LISTS

2/3	4822 466 70527	Disc assy
4/5/6/7/8	4822 466 70526	Coupling felt assy white
4/5/6/7/72	4822 528 10898	Coupling felt assy black
9	4822 466 81479	Cassette lift
16	4822 528 80983	Fixation
17	4822 403 40157	Pressure roller assy
24	4822 276 13081	Play switch
29/30/31	4822 522 20327	Gear assy
32	4822 492 71468	Leaf spring
35	4822 403 52031	Gear arm
36	4822 492 90076	Lever
39	4822 528 81144	Pulley
40	4822 403 10225	Holder
44	4822 520 30406	Bush bearing
49	4822 520 30407	Excentric
53	4822 502 12548	Special screw
54/207	4822 358 30405	Driving belt
58	4822 528 81517	Fly wheel assy
93	4822 281 60165	Anchor plate
99	4822 281 50113	Solenoid magnet
125	4822 403 71287	Lever eject
126	4822 403 71286	Lever blocking
133	4822 466 83076	Plate solenoid II
203	4822 404 21169	Arm
296	4822 256 92317	Holder cassette
298	4822 403 71282	Head support bracket
304	4822 462 30632	Band conductor
306	4822 403 71283	Push button rod
318	4822 403 71284	Latch
319	4822 492 42774	Spring latch
320	4822 361 21764	Motor MSI-5 CCW
321	4822 276 13617	Switch mute
330	4822 276 13616	Switch track
331	4822 403 71285	Lever solenoid
332	4822 249 30227	Magnetic head
	4822 691 10438	Deck LCA2.4 complete

Lubrication greases/oils

4822 390 10107	Isoflex PDP 65, 30ML
4822 390 20128	Isoflex TOPAS L 30
4822 390 20116	Grease 004, 100G CAN
4822 390 20128	Isoflex TOPAS L 30